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SEQUENCE LISTING



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<120> Chlamydia Pneumoniae Genome Sequence

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<150> US 60/108,279

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tagagaagat ggccgagtag tgaagacgaa ttcttagaga aaaattagag tgttttcttg 1230180
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<210> 2
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<212> PRT
<213> Chlamydia pneumoniae

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<220>
<223> CPn0001

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Met Leu Gly Lys Ile Ile Arg Gly Leu Ser Ser Leu Ile Val Ile Leu
          20           25           30
Cys Ala Leu Asn Val Gly Leu Ile Gly Ile Thr His Asn Lys Leu Asn
          35           40           45
Ile Ile Ala Lys Leu Cys Gly Gly Val Ser Thr Pro Ala Thr Gln Ile
          50           55           60
Thr Tyr Ile Ile Ile Gly Ile Ala Gly Val Ile Cys Leu Leu Ser Phe
          65           70           75           80

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Cys Pro Phe Cys Ser Lys Lys Ser Arg His Ser His Gly Asp Ser Cys
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Ser Ser Gly Gly Cys His Ser His His Ser Asp Lys Asn
100 105

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<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0002

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1 5 10 15
Lys Ala Ser Ala Leu Gln Leu Ser Glu Glu Leu Ile Gln Glu Tyr Gln
20 25 30
Thr Ser Leu Ser Ala Val Ile Thr Ser Met Lys Glu Ala Leu Ala Ile
35 40 45
Glu Ile Asp Asp Ala Asp Ser Cys Glu Ser Leu Phe Met His Val Val
50 55 60
Asn Val Glu Asp Leu Arg Glu Asp Ser Val Thr Ser Asp Phe Asn Arg
65 70 75 80
Glu Glu Phe Leu Arg Asn Val Pro Glu Ser Leu Gly Gly Leu Val Lys
85 90 95
Val Pro Ala Val Ile Lys
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<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0003

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Leu Gly Glu Leu Thr Ala Thr Gly Val Thr Gln His Phe Phe His Arg
20 25 30
Ile Glu Glu Ala Glu Gly Gln Val Gly Ala Phe Ile Ser Leu Cys Lys
35 40 45
Glu Gln Ala Leu Glu Gln Ala Glu Leu Ile Asp Lys Lys Arg Ser Arg
50 55 60
Gly Glu Pro Leu Gly Lys Leu Ala Gly Val Pro Val Gly Ile Lys Asp
65 70 75 80
Asn Ile His Val Thr Gly Leu Lys Thr Thr Cys Ala Ser Arg Val Leu
85 90 95
Glu Asn Tyr Gln Pro Pro Phe Asp Ala Thr Val Val Glu Arg Ile Lys
100 105 110
Lys Glu Asp Gly Ile Ile Leu Gly Lys Leu Asn Met Asp Glu Phe Ala
115 120 125
Met Gly Ser Thr Thr Leu Tyr Ser Ala Phe His Pro Thr His Asn Pro
130 135 140
Trp Asp Leu Ser Arg Val Pro Gly Gly Ser Ser Gly Gly Ser Ala Ala
145 150 155 160
Ala Val Ser Ala Arg Phe Cys Pro Val Ala Leu Gly Ser Asp Thr Gly
165 170 175

Gly	Ser	Ile	Arg	Gln	Pro	Ala	Ala	Phe	Cys	Gly	Val	Val	Gly	Phe	Lys
			180					185						190	
Pro	Ser	Tyr	Gly	Ala	Val	Ser	Arg	Tyr	Gly	Leu	Val	Ala	Phe	Ala	Ser
		195					200					205			
Ser	Leu	Asp	Gln	Ile	Gly	Pro	Leu	Ala	Asn	Thr	Val	Glu	Asp	Val	Ala
	210				215						220				
Leu	Met	Met	Asp	Val	Phe	Ser	Gly	Arg	Asp	Pro	Lys	Asp	Ala	Thr	Ser
225				230						235				240	
Arg	Glu	Phe	Phe	Arg	Asp	Ser	Phe	Met	Ser	Lys	Leu	Ser	Thr	Glu	Val
			245					250					255		
Pro	Lys	Val	Ile	Gly	Val	Pro	Arg	Thr	Phe	Leu	Glu	Gly	Leu	Arg	Asp
		260					265						270		
Asp	Ile	Arg	Glu	Asn	Phe	Phe	Ser	Ser	Leu	Ala	Ile	Phe	Glu	Gly	Glu
	275				280							285			
Gly	Thr	His	Leu	Val	Asp	Val	Glu	Leu	Asp	Ile	Leu	Ser	His	Ala	Val
	290				295						300				
Ser	Ile	Tyr	Tyr	Ile	Leu	Ala	Ser	Ala	Glu	Ala	Ala	Thr	Asn	Leu	Ala
305				310						315				320	
Arg	Phe	Asp	Gly	Val	Arg	Tyr	Gly	Tyr	Arg	Ser	Pro	Gln	Ala	His	Thr
			325					330					335		
Ile	Ser	Gln	Leu	Tyr	Asp	Leu	Ser	Arg	Gly	Glu	Gly	Phe	Gly	Lys	Glu
		340					345						350		
Val	Met	Arg	Arg	Ile	Leu	Leu	Gly	Asn	Tyr	Val	Leu	Ser	Ala	Glu	Arg
	355						360						365		
Gln	Asn	Val	Tyr	Tyr	Lys	Lys	Ala	Thr	Ala	Val	Arg	Ala	Lys	Ile	Val
	370				375						380				
Lys	Ala	Phe	Arg	Thr	Ala	Phe	Glu	Lys	Cys	Glu	Ile	Leu	Ala	Met	Pro
385				390						395				400	
Val	Cys	Ser	Ser	Pro	Ala	Phe	Glu	Ile	Gly	Glu	Ile	Leu	Asp	Pro	Val
			405					410					415		
Thr	Leu	Tyr	Leu	Gln	Asp	Ile	Tyr	Thr	Val	Ala	Met	Asn	Leu	Ala	Tyr
		420					425						430		
Leu	Pro	Ala	Ile	Ala	Val	Pro	Ser	Gly	Phe	Ser	Lys	Glu	Gly	Leu	Pro
	435					440						445			
Leu	Gly	Leu	Gln	Ile	Ile	Gly	Gln	Gln	Gly	Gln	Asp	Gln	Gln	Val	Cys
	450				455						460				
Gln	Val	Gly	Tyr	Ser	Phe	Gln	Glu	His	Ala	Gln	Ile	Lys	Gln	Leu	Phe
465				470						475				480	
Ser	Lys	Arg	Tyr	Ala	Lys	Ser	Val	Val	Leu	Gly	Gly	Gln	Ser		
			485						490						

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0004

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Tyr	Ala	Asp	Trp	Glu	Ser	Val	Ile	Gly	Leu	Glu	Val	His	Val	Glu	Leu
		20						25				30			
Asn	Thr	Ala	Ser	Lys	Leu	Phe	Ser	Ser	Ala	Leu	Asn	Arg	Phe	Gly	Asp
	35					40					45				
Glu	Pro	Asn	Thr	Asn	Ile	Ser	Thr	Val	Cys	Thr	Gly	Leu	Pro	Gly	Ser
	50				55					60					
Leu	Pro	Val	Leu	Asn	Gln	Ser	Ala	Val	Glu	Lys	Ala	Val	Leu	Phe	Gly
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<210> 6
<211> 932
<212> PRT
<213> Chlamydia pneumoniae
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<220>
<223> CPn0005

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 20 25 30
 Ser Leu Ser Ala Thr Thr Ile Ser Leu Thr Pro Glu Asp Ser Phe His
 35 40 45
 Gly Asp Ser Gln Asn Ala Glu Arg Ser Tyr Asn Val Gln Ala Gly Asp
 50 55 60
 Val Tyr Ser Leu Thr Gly Asp Val Ser Ile Ser Asn Val Asp Asn Ser
 65 70 75 80
 Ala Leu Asn Lys Ala Cys Phe Asn Val Thr Ser Gly Ser Val Thr Phe
 85 90 95
 Ala Gly Asn His His Gly Leu Tyr Phe Asn Asn Ile Ser Ser Gly Thr
 100 105 110
 Thr Lys Glu Gly Ala Val Leu Cys Cys Gln Asp Pro Gln Ala Thr Ala
 115 120 125
 Arg Phe Ser Gly Phe Ser Thr Leu Ser Phe Ile Gln Ser Pro Gly Asp
 130 135 140
 Ile Lys Glu Gln Gly Cys Leu Tyr Ser Lys Asn Ala Leu Met Leu Leu
 145 150 155 160
 Asn Asn Tyr Val Val Arg Phe Glu Gln Asn Gln Ser Lys Thr Lys Gly
 165 170 175
 Gly Ala Ile Ser Gly Ala Asn Val Thr Ile Val Gly Asn Tyr Asp Ser
 180 185 190
 Val Ser Phe Tyr Gln Asn Ala Ala Thr Phe Gly Gly Ala Ile His Ser
 195 200 205
 Ser Gly Pro Leu Gln Ile Ala Val Asn Gln Ala Glu Ile Arg Phe Ala
 210 215 220
 Gln Asn Thr Ala Lys Asn Gly Ser Gly Gly Ala Leu Tyr Ser Asp Gly
 225 230 235 240
 Asp Ile Asp Ile Asp Gln Asn Ala Tyr Val Leu Phe Arg Glu Asn Glu
 245 250 255
 Ala Leu Thr Thr Ala Ile Gly Lys Gly Gly Ala Val Cys Cys Leu Pro
 260 265 270
 Thr Ser Gly Ser Ser Thr Pro Val Pro Ile Val Thr Phe Ser Asp Asn
 275 280 285
 Lys Gln Leu Val Phe Glu Arg Asn His Ser Ile Met Gly Gly Gly Ala
 290 295 300
 Ile Tyr Ala Arg Lys Leu Ser Ile Ser Ser Gly Gly Pro Thr Leu Phe
 305 310 315 320
 Ile Asn Asn Ile Ser Tyr Ala Asn Ser Gln Asn Leu Gly Gly Ala Ile
 325 330 335
 Ala Ile Asp Thr Gly Gly Glu Ile Ser Leu Ser Ala Glu Lys Gly Thr
 340 345 350
 Ile Thr Phe Gln Gly Asn Arg Thr Ser Leu Pro Phe Leu Asn Gly Ile
 355 360 365
 His Leu Leu Gln Asn Ala Lys Phe Leu Lys Leu Gln Ala Arg Asn Gly
 370 375 380
 Tyr Ser Ile Glu Phe Tyr Asp Pro Ile Thr Ser Glu Ala Asp Gly Ser
 385 390 395 400
 Thr Gln Leu Asn Ile Asn Gly Asp Pro Lys Asn Lys Glu Tyr Thr Gly
 405 410 415
 Thr Ile Leu Phe Ser Gly Glu Lys Ser Leu Ala Asn Asp Pro Arg Asp
 420 425 430
 Phe Lys Ser Thr Ile Pro Gln Asn Val Asn Leu Ser Ala Gly Tyr Leu
 435 440 445

Val	Ile	Lys	Glu	Gly	Ala	Glu	Val	Thr	Val	Ser	Lys	Phe	Thr	Gln	Ser
450						455					460				
Pro	Gly	Ser	His	Leu	Val	Leu	Asp	Leu	Gly	Thr	Lys	Leu	Ile	Ala	Ser
465					470					475					480
Lys	Glu	Asp	Ile	Ala	Ile	Thr	Gly	Leu	Ala	Ile	Asp	Ile	Asp	Ser	Leu
				485					490					495	
Ser	Ser	Ser	Ser	Thr	Ala	Ala	Val	Ile	Lys	Ala	Asn	Thr	Ala	Asn	Lys
				500				505					510		
Gln	Ile	Ser	Val	Thr	Asp	Ser	Ile	Glu	Leu	Ile	Ser	Pro	Thr	Gly	Asn
		515					520					525			
Ala	Tyr	Glu	Asp	Leu	Arg	Met	Arg	Asn	Ser	Gln	Thr	Phe	Pro	Leu	Leu
	530					535				540					
Ser	Leu	Glu	Pro	Gly	Ala	Gly	Gly	Ser	Val	Thr	Val	Thr	Ala	Gly	Asp
545					550					555					560
Phe	Leu	Pro	Val	Ser	Pro	His	Tyr	Gly	Phe	Gln	Gly	Asn	Trp	Lys	Leu
				565					570					575	
Ala	Trp	Thr	Gly	Thr	Gly	Asn	Lys	Val	Gly	Glu	Phe	Phe	Trp	Asp	Lys
			580					585					590		
Ile	Asn	Tyr	Lys	Pro	Arg	Pro	Glu	Lys	Glu	Gly	Asn	Leu	Val	Pro	Asn
		595					600					605			
Ile	Leu	Trp	Gly	Asn	Ala	Val	Asp	Val	Arg	Ser	Leu	Met	Gln	Val	Gln
	610					615					620				
Glu	Thr	His	Ala	Ser	Ser	Leu	Gln	Thr	Asp	Arg	Gly	Leu	Trp	Ile	Asp
625						630				635					640
Gly	Ile	Gly	Asn	Phe	Phe	His	Val	Ser	Ala	Ser	Glu	Asp	Asn	Ile	Arg
				645					650					655	
Tyr	Arg	His	Asn	Ser	Gly	Gly	Tyr	Val	Leu	Ser	Val	Asn	Asn	Glu	Ile
			660					665					670		
Thr	Pro	Lys	His	Tyr	Thr	Ser	Met	Ala	Phe	Ser	Gln	Leu	Phe	Ser	Arg
		675					680					685			
Asp	Lys	Asp	Tyr	Ala	Val	Ser	Asn	Asn	Glu	Tyr	Arg	Met	Tyr	Leu	Gly
	690					695					700				
Ser	Tyr	Leu	Tyr	Gln	Tyr	Thr	Thr	Ser	Leu	Gly	Asn	Ile	Phe	Arg	Tyr
705					710					715					720
Ala	Ser	Arg	Asn	Pro	Asn	Val	Asn	Val	Gly	Ile	Leu	Ser	Arg	Arg	Phe
				725					730					735	
Leu	Gln	Asn	Pro	Leu	Met	Ile	Phe	His	Phe	Leu	Cys	Ala	Tyr	Gly	His
			740					745					750		
Ala	Thr	Asn	Asp	Met	Lys	Thr	Asp	Tyr	Ala	Asn	Phe	Pro	Met	Val	Lys
		755					760					765			
Asn	Ser	Trp	Arg	Asn	Asn	Cys	Trp	Ala	Ile	Glu	Cys	Gly	Gly	Ser	Met
	770					775					780				
Pro	Leu	Leu	Val	Phe	Glu	Asn	Gly	Arg	Leu	Phe	Gln	Gly	Ala	Ile	Pro
785					790					795					800
Phe	Met	Lys	Leu	Gln	Leu	Val	Tyr	Ala	Tyr	Gln	Gly	Asp	Phe	Lys	Glu
				805					810					815	
Thr	Thr	Ala	Asp	Gly	Arg	Arg	Phe	Ser	Asn	Gly	Ser	Leu	Thr	Ser	Ile
			820					825					830		
Ser	Val	Pro	Leu	Gly	Ile	Arg	Phe	Glu	Lys	Leu	Ala	Leu	Ser	Gln	Asp
		835						840				845			
Val	Leu	Tyr	Asp	Phe	Ser	Phe	Ser	Tyr	Ile	Pro	Asp	Ile	Phe	Arg	Lys
	850					855					860				
Asp	Pro	Ser	Cys	Glu	Ala	Ala	Leu	Val	Ile	Ser	Gly	Asp	Ser	Trp	Leu
865					870					875					880
Val	Pro	Ala	Ala	His	Val	Ser	Arg	His	Ala	Phe	Val	Gly	Ser	Gly	Thr
				885					890					895	
Gly	Arg	Tyr	His	Phe	Asn	Asp	Tyr	Thr	Glu	Leu	Leu	Cys	Arg	Gly	Ser
			900					905					910		
Ile	Glu	Cys	Arg	Pro	His	Ala	Arg	Asn	Tyr	Asn	Ile	Asn	Cys	Gly	Ser
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Lys Phe Arg Phe
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<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0006

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Glu Trp Leu Val Leu Leu Gly Val Pro Ser Pro Glu Thr Thr Arg Ser
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Thr Pro Glu Lys Asp Ala Asn Gln Leu Pro Lys Asp Ser Arg Asn Arg
35 40 45
Thr Leu Glu Ser Leu
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<211> 1003
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0007

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Ile Pro Leu Thr Asp Ser Thr Thr Ser Ser Leu Ser Thr Ser Leu Leu
20 25 30
Asp Glu Gly Asn Pro Gln Ser Met Arg Lys Leu Arg Ile Leu Ala Ile
35 40 45
Val Leu Ile Ala Leu Ser Ile Ile Leu Ile Ala Gly Gly Val Val Leu
50 55 60
Leu Thr Val Ala Ile Pro Gly Leu Ser Ser Val Ile Ser Ser Pro Ala
65 70 75 80
Gly Met Gly Ala Cys Ala Leu Gly Cys Val Met Leu Ala Leu Gly Ile
85 90 95
Asp Val Leu Leu Lys Lys Arg Glu Val Pro Ile Val Leu Ala Ser Val
100 105 110
Thr Thr Thr Pro Gly Thr Gly Ser Pro Arg Ser Gly Ile Ser Ile Ser
115 120 125
Gly Ala Asp Ser Thr Ile Arg Ser Leu Pro Thr Tyr Leu Leu Asp Glu
130 135 140
Gly His Pro Gln Ser Met Arg Lys Leu Arg Ile Leu Ala Ile Val Leu
145 150 155 160
Ile Val Phe Ser Ile Ile Leu Ile Ala Ser Gly Val Val Leu Leu Thr
165 170 175
Val Ala Ile Pro Gly Leu Ser Ser Val Ile Ser Ser Pro Ala Gly Met
180 185 190
Gly Ala Cys Ala Leu Gly Cys Val Met Leu Ala Leu Gly Ile Asp Val
195 200 205
Leu Leu Lys Lys Arg Glu Val Pro Ile Val Leu Ala Ser Val Thr Thr
210 215 220
Thr Pro Gly Thr Gly Ser Pro Arg Ser Gly Ile Ser Ile Ser Gly Ala
225 230 235 240

Asp	Ser	Thr	Ile	Arg	Ser	Leu	Pro	Thr	Tyr	Pro	Leu	Asp	Glu	Gly	His
				245					250					255	
Pro	Gln	Ser	Met	Arg	Lys	Leu	Arg	Ile	Leu	Ala	Ile	Val	Leu	Ile	Val
			260					265					270		
Phe	Ser	Ile	Ile	Leu	Ile	Ala	Ser	Gly	Val	Val	Leu	Leu	Thr	Val	Ala
		275					280					285			
Ile	Pro	Gly	Leu	Ser	Ser	Ile	Ile	Ser	Ser	Pro	Ala	Glu	Met	Gly	Ala
	290					295					300				
Cys	Ala	Leu	Gly	Cys	Val	Met	Leu	Ala	Leu	Gly	Ile	Asp	Val	Leu	Leu
305				310						315				320	
Lys	Lys	Arg	Glu	Val	Pro	Ile	Val	Val	Pro	Ala	Pro	Ile	Pro	Glu	Glu
			325					330					335		
Val	Val	Ile	Asp	Asp	Ile	Asp	Glu	Glu	Ser	Ile	Arg	Leu	Gln	Gln	Glu
		340					345					350			
Ala	Glu	Ala	Ala	Leu	Ala	Arg	Leu	Pro	Glu	Glu	Met	Ser	Ala	Phe	Glu
	355					360					365				
Gly	Tyr	Ile	Lys	Val	Val	Glu	Ser	His	Leu	Glu	Asn	Met	Lys	Ser	Leu
	370				375						380				
Pro	Tyr	Asp	Gly	His	Gly	Leu	Glu	Glu	Lys	Thr	Lys	His	Gln	Ile	Arg
385				390						395				400	
Val	Val	Arg	Ser	Ser	Leu	Lys	Ala	Met	Val	Pro	Glu	Phe	Leu	Asp	Ile
			405						410				415		
Arg	Arg	Ile	Phe	Glu	Glu	Glu	Glu	Phe	Phe	Phe	Leu	Ser	Ala	Arg	Lys
		420						425					430		
Arg	Leu	Ile	Asp	Leu	Ala	Thr	Thr	Leu	Val	Glu	Arg	Lys	Ile	Leu	Thr
	435					440						445			
Glu	Gln	Leu	Glu	Arg	Asn	Asn	Leu	Arg	Lys	Ala	Phe	Ser	Tyr	Leu	Tyr
	450				455						460				
Gln	Asp	Ser	Ile	Phe	Lys	Lys	Ile	Ile	Asp	Asn	Phe	Glu	Lys	Leu	Ala
465				470						475				480	
Trp	Lys	Phe	Met	Ile	Leu	Ser	Lys	Ser	Ile	Cys	Arg	Phe	Thr	Ile	Ile
			485						490				495		
Phe	Glu	Asn	His	Glu	His	Gly	Val	Ala	Lys	Ser	Leu	Leu	His	Lys	Asn
		500						505					510		
Ala	Val	Leu	Leu	Glu	Lys	Val	Ile	Tyr	Arg	Ser	Leu	Gln	Lys	Ser	Tyr
	515					520						525			
Arg	Asp	Ile	Gly	Met	Ser	Ser	Ala	Lys	Met	Lys	Ile	Leu	His	Gly	Asn
	530				535						540				
Pro	Phe	Phe	Ser	Leu	Glu	Asp	Asn	Lys	Lys	Thr	Ile	Met	Lys	Glu	His
545				550						555				560	
Ala	Glu	Met	Leu	Glu	Ser	Leu	Ser	Ser	Tyr	Arg	Lys	Val	Phe	Leu	Ala
			565						570				575		
Leu	Ser	Asp	Glu	Asn	Val	Val	Asp	Thr	Pro	Ser	Asp	Pro	Lys	Lys	Trp
		580						585					590		
Asp	Leu	Ser	Gly												

Asn Gln Asn Gln Glu Ser Cys Val Lys Val Leu Arg Ser His Glu Val
 725 730 735
 Glu Met Ser Trp Glu Val Lys Gln Glu Tyr Gly Pro Lys Lys Glu
 740 745 750
 Phe Gln Asp Gln Met Gly Ser Leu Glu Arg Phe Phe Thr Glu His Ile
 755 760 765
 Glu Glu Leu Glu Val Leu Gln Lys Asp Tyr Ser Lys His Leu Ser Tyr
 770 775 780
 Phe Lys Lys Val Asn Asn Lys Lys Glu Val Gln Tyr Ala Lys Phe Arg
 785 790 795 800
 Leu Lys Val Leu Glu Ser Asp Leu Glu Gly Ile Leu Ala Gln Thr Glu
 805 810 815
 Ser Ala Glu Ser Leu Leu Thr Gln Glu Glu Leu Pro Ile Leu Ala Thr
 820 825 830
 Arg Gly Ala Leu Glu Lys Ala Val Phe Lys Gly Ser Leu Cys Cys Ala
 835 840 845
 Leu Ala Ser Lys Ala Lys Pro Tyr Phe Glu Glu Asp Pro Arg Phe Gln
 850 855 860
 Asp Ser Asp Thr Gln Leu Arg Ala Leu Thr Leu Arg Leu Gln Glu Ala
 865 870 875 880
 Lys Ala Ser Leu Glu Glu Glu Ile Lys Arg Phe Ser Asn Leu Glu Asn
 885 890 895
 Asp Ile Ala Glu Glu Arg Arg Leu Leu Lys Glu Ser Lys Gln Thr Phe
 900 905 910
 Glu Arg Ala Gly Leu Gly Val Leu Arg Glu Ile Ala Val Glu Ser Thr
 915 920 925
 Tyr Asp Leu Arg Ser Leu Thr Asn Thr Trp Glu Gly Thr Pro Glu Ser
 930 935 940
 Glu Lys Val Tyr Phe Ser Met Tyr Leu Asn Tyr Tyr Asn Glu Glu Lys
 945 950 955 960
 Arg Arg Ala Lys Thr Arg Leu Val Glu Met Thr Gln Arg Tyr Arg Asp
 965 970 975
 Phe Lys Met Ala Leu Glu Ala Met Gln Phe Asn Glu Glu Ala Leu Leu
 980 985 990
 Gln Glu Glu Leu Ser Ile Gln Ala Pro Ser Glu
 995 1000

<210> 9
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0008

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 Val Leu Gly Val Leu Leu Leu Thr Leu Gly Ile Pro Gly Leu Thr Ala
 35 40 45
 Gly Ile Ser Phe Gly Ala Gly Leu Gly Phe Ser Ala Leu Gly Gly Val
 50 55 60
 Leu Val Ile Ser Gly Leu Leu Phe Leu Leu Val Arg Arg Glu Val Pro
 65 70 75 80
 Thr Val Arg Ser Glu Glu Ile Pro Arg Gly Val Ser Val Thr Pro Ser
 85 90 95
 Glu Glu Pro Ala Leu Glu Lys Ala Gln Lys Glu Pro Glu Thr Lys Lys
 100 105 110

Ile	Leu	Asp	Arg	Leu	Pro	Lys	Glu	Leu	Asp	Gln	Leu	Asp	Thr	Tyr	Ile
	115						120				125				
Gln	Glu	Val	Phe	Ala	Cys	Leu	Glu	Arg	Leu	Lys	Asp	Pro	Lys	Tyr	Glu
	130					135					140				
Asp	Arg	Gly	Leu	Leu	Thr	Glu	Ala	Lys	Glu	Lys	Leu	Arg	Val	Phe	Asp
145					150					155					160
Val	Val	Glu	Lys	Asp	Met	Met	Ser	Glu	Phe	Leu	Asp	Ile	Gln	Arg	Val
				165					170					175	
Leu	Asn	Glu	Glu	Ala	Tyr	Tyr	Val	Glu	His	Cys	Gln	Asp	Pro	Leu	Glu
		180						185					190		
Asn	Ile	Ala	Tyr	Glu	Ile	Phe	Ser	Ser	Gln	Glu	Leu	Arg	Asp	Tyr	Tyr
	195						200					205			
Cys	Ala	Gly	Val	Cys	Gly	Tyr	Leu	Pro	Ser	Gly	Asp	Ala	Arg	Ala	Asp
	210					215					220				
Arg	Leu	Lys	Arg	Ser	Val	Lys	Glu	Val	Met	Asp	Arg	Phe	Met	Arg	Val
225					230					235					240
Thr	Trp	Lys	Ser	Trp	Glu	Ala	Ser	Val	Met	Leu	Asp	His	Ser	Tyr	Gly
				245					250					255	
Val	Ala	Arg	Glu	Leu	Phe	Lys	Lys	Ala	Val	Gly	Val	Leu	Glu	Glu	Ser
			260					265					270		
Val	Tyr	Lys	Ile	Leu	Phe	Lys	Ser	Tyr	Arg	Asp	Ala	Phe	Tyr	Glu	Cys
	275						280				285				
Glu	Lys	Ala	Lys	Ile	Gln	Arg	Asp	Gly	Arg	Phe	Lys	Trp	Leu		
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 <213> Chlamydia pneumoniae

<220>
 <223> CPn0009

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Trp	Glu	Asp	Leu	Lys	Gln	Thr	Ile	Phe	Trp	Val	Gly	Glu	His	Asp	Cys
			20					25					30		
Thr	Asp	Ile	Glu	Thr	Val	Arg	Lys	Ser	Cys	Met	Trp	Leu	Asp	Arg	Tyr
		35					40					45			
Ala	Asp	Lys	Phe	Ile	Leu	Arg	Glu	Lys	Glu	Glu	Lys	Met	Glu	Arg	His
	50					55					60				
Glu	Leu	Phe	His	Ala	Thr	Met	Val	Arg	Lys	Ala	Ser	Gly	His	Ala	Tyr
65				70						75				80	
Ala	Lys	Ala	Lys	Ala	Ala	Phe	Glu	Lys	Glu	Arg	Ser	Asn	Glu	Asn	Gln
				85					90					95	
Arg	Lys	Val	Lys	Asp	Val	Glu	Lys	Trp	Leu	Ser	Lys	Gly	Leu	Ala	Glu
			100					105					110		
Phe	Arg	Asn	Gln	Glu	Ser	Arg	Arg	Ala	Arg	Glu	Arg	Leu	Arg	Glu	Leu
	115						120					125			
Gln	Thr	Leu	Tyr	Pro	Glu	Val	Ser	Val	Glu	Glu	Arg	Val	Leu	Glu	Arg
	130					135						140			
Gln	Arg	Thr	Lys	Lys	Val	Asn	Leu	Glu	Asn	Leu	Tyr	Ala	Asp	Ile	Glu
145					150					155					160
Lys	Lys	Tyr	His	His	Cys	Val	Arg	Glu	Gln	Glu	His	Tyr	Trp	Lys	Glu
				165					170					175	
Val	Glu	Asn	Lys	Glu	Ala	Glu	Tyr	Arg	Glu	Asn	Gly	Glu	Lys	Val	Leu
			180					185					190		
Ser	Ala	Glu	Glu	Val	Ser	Glu	Cys	Leu	Gln	Arg	Leu	Glu	Asp	Cys	Leu
	195						200						205		

Glu	Thr	Trp	Ser	Lys	Lys	Leu	Thr	Lys	Ala	Glu	Glu	Ser	Val	Phe	Glu
210						215					220				
Met	Lys	Phe	Asp	Ala	Thr	Glu	Lys	Leu	Gly	Asn	Lys	Val	Leu	Ser	Asp
225						230				235					240
Val	Thr	Asn	Arg	Leu	Glu	Ile	Leu	Cys	Glu	Asp	Ala	Glu	Glu	Met	Ile
				245					250					255	
Phe	Arg	Ile	Glu	Glu	Ile	Glu	Met	Thr	Leu	Arg	Met	Val	Glu	Leu	Pro
			260					265					270		
Leu	Leu	Phe	Met	Lys	Asn	Thr	Phe	Glu	Lys	Ala	Ser	Leu	Gln	Tyr	Asn
		275					280					285			
Ser	Cys	Lys	Glu	Met	Leu	Ala	Lys	Val	Glu	Pro	Gln	Cys	Lys	Glu	Ser
290						295					300				
Pro	Thr	Tyr	Arg	Ser	Ser	Gln	Glu	Arg	Leu	Glu	Arg	Leu	Asn	Gln	Asp
305					310					315					320
Leu	Gln	Thr	Ala	Tyr	Thr	Asn	Cys	Gln	Glu	Arg	Leu	Gln	Gly	Phe	Ser
			325					330						335	
Asp	Leu	Glu	Ser	Lys	Val	Arg	Thr	Cys	Arg	Asp	His	Leu	Arg	Glu	Gln
			340					345					350		
Met	Lys	His	Phe	Glu	Val	Gln	Gly	Leu	Asn	Phe	Ile	Asn	Glu	Glu	Leu
		355					360					365			
Leu	Trp	Val	Gly	Ala	Glu	Leu	Phe	Thr	Gln	Ala	Arg	Leu	Asp	Leu	Val
	370					375					380				
Ala	Thr	Val	Pro	Tyr	Met	Glu	Phe	Tyr	Leu	Gln	Tyr	His	Asn	Ile	Lys
385					390					395					400
Arg	Glu	Lys	Val	Arg	Ser	Gln	Trp	Met	Ala	Lys	Thr	Glu	Arg	Tyr	Arg
				405				410						415	
Glu	Ile	Arg	Gln	Ala	Phe	Gln	Gly	Val	Met	Lys	Glu	Asp	Leu	Leu	Ala
			420					425					430		
Glu	Asp	Thr	Ile	Leu	Lys	Glu	Glu	Asp	Tyr	Trp	Leu	Leu	Arg	Asp	Asp
		435					440					445			
Trp	Leu	Leu	Arg	Asp	Glu	Arg	Lys	Asn	Arg	Gln	Arg	Arg	Leu	Ile	Cys
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Asn	Lys	Ile	Ala	Ala	Ala	Gln	Gln	Arg	Val	Lys	Gly	Phe			
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 <213> Chlamydia pneumoniae

<220>
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Val	Gly	Ser	Ile	Ser	Ser	Pro	Ser	Lys	Leu	Arg	Val	Leu	Ala	Ile	Thr
			20					25					30		
Phe	Leu	Val	Phe	Gly	Met	Leu	Leu	Leu	Ile	Ser	Gly	Ala	Leu	Phe	Leu
		35					40					45			
Thr	Leu	Gly	Ile	Pro	Gly	Leu	Ser	Ala	Ala	Ile	Ser	Phe	Gly	Leu	Gly
	50					55					60				
Ile	Gly	Leu	Ser	Ala	Leu	Gly	Gly	Val	Leu	Met	Ile	Ser	Gly	Leu	Leu
65					70					75				80	
Cys	Leu	Leu	Val	Lys	Arg	Glu	Ile	Pro	Thr	Val	Arg	Pro	Glu	Glu	Ile
				85					90					95	
Pro	Glu	Gly	Val	Ser	Leu	Ala	Pro	Ser	Glu	Glu	Pro	Ala	Leu	Gln	Ala
			100					105					110		
Ala	Gln	Lys	Thr	Leu	Ala	Gln	Leu	Pro	Lys	Glu	Leu	Asp	Gln	Leu	Asp
		115					120						125		

Thr	Asp	Ile	Gln	Glu	Val	Phe	Ala	Cys	Leu	Arg	Lys	Leu	Lys	Asp	Ser
130						135					140				
Lys	Tyr	Glu	Ser	Arg	Ser	Phe	Leu	Asn	Asp	Ala	Lys	Lys	Glu	Leu	Arg
145					150					155					160
Val	Phe	Asp	Phe	Val	Val	Glu	Asp	Thr	Leu	Ser	Glu	Ile	Phe	Glu	Leu
			165						170					175	
Arg	Gln	Ile	Val	Ala	Gln	Glu	Gly	Trp	Asp	Leu	Asn	Phe	Leu	Ile	Asn
			180						185				190		
Gly	Gly	Arg	Ser	Leu	Met	Met	Thr	Ala	Glu	Ser	Glu	Ser	Leu	Asp	Leu
		195					200					205			
Phe	His	Val	Ser	Lys	Arg	Leu	Gly	Tyr	Leu	Pro	Ser	Gly	Asp	Val	Arg
	210					215					220				
Gly	Glu	Gly	Leu	Lys	Lys	Ser	Ala	Lys	Glu	Ile	Val	Ala	Arg	Leu	Met
225				230						235					240
Ser	Leu	His	Cys	Glu	Ile	His	Lys	Val	Ala	Val	Ala	Phe	Asp	Arg	Asn
			245						250					255	
Ser	Tyr	Ala	Met	Ala	Glu	Lys	Ala	Phe	Ala	Lys	Ala	Leu	Gly	Ala	Leu
			260					265						270	
Glu	Glu	Ser	Val	Tyr	Arg	Ser	Leu	Thr	Gln	Ser	Tyr	Arg	Asp	Lys	Phe
		275						280				285			
Leu	Glu	Ser	Glu	Arg	Ala	Lys	Ile	Pro	Trp	Asn	Gly	His	Ile	Thr	Trp
	290					295					300				
Leu	Arg	Asp	Asp	Ala	Lys	Ser	Gly	Cys	Ala	Glu	Lys	Lys	Leu	Gly	Met
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Pro	Arg	Asn	Val	Gly	Arg	Asn	Leu	Gly	Lys	Gln	Ser	Phe	Gly		
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 <213> Chlamydia pneumoniae

<220>
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Val	Glu	Trp	Val	Glu	Glu	Asp	Gly	Gly	Phe	Asp	Ile	Asn	Asn	Leu	Leu
			20					25					30		
Gly	Asp	Trp	Gly	Thr	Val	Leu	Asp	Pro	Tyr	Arg	Gln	Glu	Arg	Met	Asp
	35						40					45			
Glu	Ile	Thr	Phe	His	Glu	Leu	Tyr	Glu	Lys	Thr	Thr	Phe	Leu	Lys	Arg
	50					55					60				
Leu	His	Arg	Lys	Cys	Ala	Leu	Ala	Lys	Thr	Thr	Phe	Glu	Lys	Lys	Arg
65				70						75					80
Ser	Lys	Lys	Asn	Leu	Gln	Ala	Val	Glu	Glu	Ala	Asn	Ala	Arg	Arg	Leu
			85						90					95	
Lys	Tyr	Val	Arg	Asp	Trp	Tyr	Asp	Gln	Glu	Phe	Gln	Lys	Ala	Gly	Glu
		100					105						110		
Arg	Leu	Glu	Lys	Leu	His	Ala	Leu	Tyr	Pro	Glu	Val	Ser	Val	Ser	Ile
		115					120					125			
Arg	Glu	Asn	Lys	Ile	Gln	Glu	Thr	Arg	Ser	Asn	Leu	Glu	Lys	Ala	Tyr
	130					135					140				
Glu	Ala	Ile	Glu	Glu	Asn	Tyr	Arg	Cys	Cys	Val	Arg	Glu	Gln	Glu	Asp
145					150					155					160
Tyr	Trp	Lys	Glu	Glu	Lys	Arg	Glu	Ala	Glu	Phe	Arg	Glu	Arg	Gly	
			165						170					175	
Asn	Lys	Ile	Leu	Ser	Pro	Glu	Glu	Leu	Ser	Ser	Leu	Glu	Gln	Phe	
			180					185						190	

Leu Glu Gln Ile Glu Ala Lys Gln Ile Ala Glu Thr Phe Ala Asp Glu
 100 105 110
 Leu Lys Glu Leu Glu Met Tyr Ile Gln Ser Thr Glu Lys Ser Leu Glu
 115 120 125
 Lys Ile Glu Gly Ser Arg Tyr Ser Asp Gln Gly Phe Leu Asn Arg Ala
 130 135 140
 Thr Gln Lys Ile Leu Asp Leu Glu Ser Ser Leu Ser Ser Ile Thr Ser
 145 150 155 160
 Glu Phe Arg Asp Leu Arg Gln Leu Phe Asp Glu Glu Lys Ile Glu Leu
 165 170 175
 Leu Ser Gly Glu Arg Leu Leu Glu Phe Ile Ala Ala Asn Leu Phe Lys
 180 185 190
 Gln Gly Arg Asp Val Tyr Leu Asn Leu Gly Asn Leu Ala Asp Ile Arg
 195 200 205
 Ala Tyr Met Gly Pro Asn Asn Tyr Lys Val Ala Met Val Ile Glu Lys
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 Ala Lys Ala Val Val His Glu Phe Ile Val Leu Thr Thr Met Ala Arg
 225 230 235 240
 Glu Leu Glu Phe Phe Phe
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 <213> Chlamydia pneumoniae

<220>
 <223> CPn0012

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 Val Gln Lys Ser Tyr Ala Asp Arg Leu Phe Ser Tyr Glu Lys Thr Lys
 35 40 45
 Met Val His Asp Thr Pro Leu Ile Pro Trp Glu Glu Asp Lys Glu Lys
 50 55 60
 Cys Ala Glu Ala Glu Lys Ala Phe Leu Glu Gln Gln Lys Ile Leu Leu
 65 70 75 80
 Asp Tyr Gly Lys Ser Ile Phe Trp Leu Asn Glu Asn Asp Glu Ile Asn
 85 90 95
 Leu Asn Asp Pro Trp Ser Trp Gly Leu Asn Thr Val Arg Thr Arg Lys
 100 105 110
 Val Phe Gln Glu Val Asp Asp Ser Glu Arg Trp Asn His Lys Val Leu
 115 120 125
 Ile Gln Lys Leu Glu Asp Asp Tyr Glu Lys Leu Leu Glu Glu Ser Ser
 130 135 140
 Lys Glu Ser Thr Glu Ala Asn Lys Lys Leu Leu Ser Asp Leu Val Asp
 145 150 155 160
 Arg Leu Glu Asp Ala Lys Thr Lys Phe Phe Leu Lys Lys Gln Glu Glu
 165 170 175
 Val Glu Thr Arg Val Lys Asp Leu Arg Ala Arg Tyr Gly Gly Thr Val
 180 185 190
 Asp Pro Lys Gln Asp Thr Glu Ala Lys Lys Lys Val Glu Leu Glu Ala
 195 200 205
 Ser Leu Glu Thr Phe Leu Asp Ser Ile Glu Ser Glu Leu Val Gln Cys
 210 215 220
 Leu Glu Asp Gln Asp Ile Tyr Trp Lys Glu Gln Asp Val Lys Asp Leu
 225 230 235 240

Ala Arg Thr Gln Glu Leu Glu Glu Gln Asp Ile Glu Ala Lys Arg Glu
 245 250 255
 Glu Ala Ala Glu Asp Leu Arg Ser Leu Asn Glu Arg Leu Lys Lys Ser
 260 265 270
 Lys Thr Met Leu Asp Arg Ala Lys Trp His Ile Glu Asn Ala Glu Asp
 275 280 285
 Ser Ile Thr Trp Trp Thr Ser Gln Ile Glu Met Lys Asp Met Lys Ala
 290 295 300
 Arg Leu Lys Ile Leu Lys Glu Asp Ile Thr Ser Val Leu Pro Glu Ile
 305 310 315 320
 Asp Glu Ile Glu Thr Cys Leu Ser Leu Glu Glu Leu Pro Leu Leu Thr
 325 330 335
 Thr Arg Glu Leu Leu Thr Lys Ser Tyr Leu Lys Phe Lys Ile Cys Ser
 340 345 350
 Glu Thr Leu Leu Lys Met Thr Ser Val Phe Glu Asn Asn Ile Tyr Val
 355 360 365
 Gln Glu Tyr Glu Val Gln Leu Gln Asn Leu Gly Phe Lys Leu Gln Gly
 370 375 380
 Ile Ser Gln Arg Phe Gly Lys Lys Gln Asp Asp Phe Ala Asn Leu Glu
 385 390 395 400
 Glu Gln Val Ala Leu Gln Lys Lys Arg Leu Arg Glu Leu Thr Gln Asn
 405 410 415
 Phe Glu Ile Gln Gly Phe Asn Phe Met Lys Glu Asp Phe Lys Ala Ala
 420 425 430
 Ala Lys Asp Leu Tyr Ile Arg Ser Thr Ala Glu Gln Lys Met Asn Phe
 435 440 445
 Asp Val Pro Cys Met Glu Leu Phe Arg Arg Tyr His Glu Glu Val Asn
 450 455 460
 Lys Pro Leu Leu Glu Leu Met Tyr Asn Cys Ala Asp Ser Tyr Arg Asp
 465 470 475 480
 Ala Lys Lys Lys Leu Cys Ser Leu Arg Leu Asp Glu Lys Glu Leu Leu
 485 490 495
 Gln Lys Glu Ile Lys Lys Glu Glu Phe Tyr Gln Lys Lys Gln Gln Arg
 500 505 510
 His Ala Asp Arg Ser Arg His Thr Thr Tyr Gln Lys Leu Arg Ile Ala
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 Glu Glu Leu Ala Leu Glu Leu Lys Lys Lys Ile
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 <213> Chlamydia pneumoniae

<220>
 <223> CPn0013

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 Leu Leu Ile Ser Leu Val Pro Thr Leu Ser Met Ser Asn Leu Leu Gly
 35 40 45
 Ala Ala Thr Thr Glu Glu Leu Ser Ala Ser Asn Ser Phe Asp Gly Thr
 50 55 60
 Thr Ser Thr Thr Ser Phe Ser Ser Lys Thr Ser Ser Ala Thr Asp Gly
 65 70 75 80
 Thr Asn Tyr Val Phe Lys Asp Ser Val Val Ile Glu Asn Val Pro Lys
 85 90 95

Thr	Gly	Glu	Thr	Gln	Ser	Thr	Ser	Cys	Phe	Lys	Asn	Asp	Ala	Ala	Ala		
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Gly	Asp	Leu	Asn	Phe	Leu	Gly	Gly	Gly	Phe	Ser	Phe	Thr	Phe	Ser	Asn		
		115					120					125					
Ile	Asp	Ala	Thr	Thr	Ala	Ser	Gly	Ala	Ala	Ile	Gly	Ser	Glu	Ala	Ala		
	130					135					140						
Asn	Lys	Thr	Val	Thr	Leu	Ser	Gly	Phe	Ser	Ala	Leu	Ser	Phe	Leu	Lys		
145					150					155					160		
Ser	Pro	Ala	Ser	Thr	Val	Thr	Asn	Gly	Leu	Gly	Ala	Ile	Asn	Val	Lys		
			165						170					175			
Gly	Asn	Leu	Ser	Leu	Leu	Asp	Asn	Asp	Lys	Val	Leu	Ile	Gln	Asp	Asn		
		180						185					190				
Phe	Ser	Thr	Gly	Asp	Gly	Gly	Ala	Ile	Asn	Cys	Ala	Gly	Ser	Leu	Lys		
		195					200					205					
Ile	Ala	Asn	Asn	Lys	Ser	Leu	Ser	Phe	Ile	Gly	Asn	Ser	Ser	Ser	Thr		
	210					215					220						
Arg	Gly	Gly	Ala	Ile	His	Thr	Lys	Asn	Leu	Thr	Leu	Ser	Ser	Gly	Gly		
225					230					235					240		
Glu	Thr	Leu	Phe	Gln	Gly	Asn	Thr	Ala	Pro	Thr	Ala	Ala	Gly	Lys	Gly		
				245					250					255			
Gly	Ala	Ile	Ala	Ile	Ala	Asp	Ser	Gly	Thr	Leu	Ser	Ile	Ser	Gly	Asp		
		260						265					270				
Ser	Gly	Asp	Ile	Ile	Phe	Glu	Gly	Asn	Thr	Ile	Gly	Ala	Thr	Gly	Thr		
	275						280					285					
Val	Ser	His	Ser	Ala	Ile	Asp	Leu	Gly	Thr	Ser	Ala	Lys	Ile	Thr	Ala		
	290					295						300					
Leu	Arg	Ala	Ala	Gln	Gly	His	Thr	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr		
305					310					315					320		
Val	Thr	Gly	Ser	Thr	Ser	Val	Ala	Asp	Ala	Leu	Asn	Ile	Asn	Ser	Pro		
				325					330					335			
Asp	Thr	Gly	Asp	Asn	Lys	Glu	Tyr	Thr	Gly	Thr	Ile	Val	Phe	Ser	Gly		
		340						345					350				
Glu	Lys	Leu	Thr	Glu	Ala	Glu	Ala	Lys	Asp	Glu	Lys	Asn	Arg	Thr	Ser		
	355						360					365					
Lys	Leu	Leu	Gln	Asn	Val	Ala	Phe	Lys	Asn	Gly	Thr	Val	Val	Leu	Lys		
	370					375					380						
Gly	Asp	Val	Val	Leu	Ser	Ala	Asn	Gly	Phe	Ser	Gln	Asp	Ala	Asn	Ser		
385					390					395					400		
Lys	Leu	Ile	Met	Asp	Leu	Gly	Thr	Ser	Leu	Val	Ala	Asn	Thr	Glu	Ser		
			405						410					415			
Ile	Glu	Leu	Thr	Asn	Leu	Glu	Ile	Asn	Ile	Asp	Ser	Leu	Arg	Asn	Gly		
		420						425						430			
Lys	Lys	Ile	Lys	Leu	Ser	Ala	Ala	Thr	Ala	Gln	Lys	Asp	Ile	Arg	Ile		
	435						440					445					
Asp	Arg	Pro	Val	Val	Leu	Ala	Ile	Ser	Asp	Glu	Ser	Phe	Tyr	Gln	Asn		
	450					455						460					
Gly	Phe	Leu	Asn	Glu	Asp	His	Ser	Tyr	Asp	Gly	Ile	Leu	Glu	Leu	Asp		
465					470					475					480		
Ala	Gly	Lys	Asp	Ile	Val	Ile	Ser	Ala	Asp	Ser	Arg	Ser	Ile	Asp	Ala		
			485						490					495			
Val	Gln	Ser	Pro	Tyr	Gly	Tyr	Gln	Gly	Lys	Trp	Thr	Ile	Asn	Trp	Ser		
		500						505					510				
Thr	Asp	Asp	Lys	Lys	Ala	Thr	Val	Ser	Trp	Ala	Lys	Gln	Ser	Phe	Asn		
	515						520					525					
Pro	Thr	Ala	Glu	Gln	Glu	Ala	Pro	Leu	Val	Pro	Asn	Leu	Leu	Trp	Gly		
	530					535					540						
Ser	Phe	Ile	Asp	Val	Arg	Ser	Phe	Gln	Asn	Phe	Ile	Glu	Leu	Gly	Thr		
545					550					555					560		
Glu	Gly	Ala	Pro	Tyr	Glu	Lys	Arg	Phe	Trp	Val	Ala	Gly	Ile	Ser	Asn		
			565						570					575			

Val	Leu	His	Arg	Ser	Gly	Arg	Glu	Asn	Gln	Arg	Lys	Phe	Arg	His	Val
			580					585					590		
Ser	Gly	Gly	Ala	Val	Val	Gly	Ala	Ser	Thr	Arg	Met	Pro	Gly	Gly	Asp
		595					600					605			
Thr	Leu	Ser	Leu	Gly	Phe	Ala	Gln	Leu	Phe	Ala	Arg	Asp	Lys	Asp	Tyr
	610					615					620				
Phe	Met	Asn	Thr	Asn	Phe	Ala	Lys	Thr	Tyr	Ala	Gly	Ser	Leu	Arg	Leu
625					630					635					640
Gln	His	Asp	Ala	Ser	Leu	Tyr	Ser	Val	Val	Ser	Ile	Leu	Leu	Gly	Glu
			645						650					655	
Gly	Gly	Leu	Arg	Glu	Ile	Leu	Leu	Pro	Tyr	Val	Ser	Lys	Thr	Leu	Pro
			660					665					670		
Cys	Ser	Phe	Tyr	Gly	Gln	Leu	Ser	Tyr	Gly	His	Thr	Asp	His	Arg	Met
		675					680					685			
Lys	Thr	Glu	Ser	Leu	Pro	Pro	Pro	Pro	Pro	Thr	Leu	Ser	Thr	Asp	His
		690				695					700				
Thr	Ser	Trp	Gly	Gly	Tyr	Val	Trp	Ala	Gly	Glu	Leu	Gly	Thr	Arg	Val
705					710					715					720
Ala	Val	Glu	Asn	Thr	Ser	Gly	Arg	Gly	Phe	Phe	Gln	Glu	Tyr	Thr	Pro
			725						730					735	
Phe	Val	Lys	Val	Gln	Ala	Val	Tyr	Ala	Arg	Gln	Asp	Ser	Phe	Val	Glu
			740					745					750		
Leu	Gly	Ala	Ile	Ser	Arg	Asp	Phe	Ser	Asp	Ser	His	Leu	Tyr	Asn	Leu
		755					760					765			
Ala	Ile	Pro	Leu	Gly	Ile	Lys	Leu	Glu	Lys	Arg	Phe	Ala	Glu	Gln	Tyr
		770				775					780				
Tyr	His	Val	Val	Ala	Met	Tyr	Ser	Pro	Asp	Val	Cys	Arg	Ser	Asn	Pro
785					790					795					800
Lys	Cys	Thr	Thr	Thr	Leu	Leu	Ser	Asn	Gln	Gly	Ser	Trp	Lys	Thr	Lys
				805					810					815	
Gly	Ser	Asn	Leu	Ala	Arg	Gln	Ala	Gly	Ile	Val	Gln	Ala	Ser	Gly	Phe
			820					825					830		
Arg	Ser	Leu	Gly	Ala	Ala	Ala	Glu	Leu	Phe	Gly	Asn	Phe	Gly	Phe	Glu
		835					840					845			
Trp	Arg	Gly	Ser	Ser	Arg	Ser	Tyr	Asn	Val	Asp	Ala	Gly	Ser	Lys	Ile
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Lys	Phe														
865															

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 <213> Chlamydia pneumoniae

<220>
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Phe	Val	Phe	Ser	Thr	Phe	Ala	Ile	Phe	Pro	Leu	Ser	Met	Ile	Ala	Thr
			20					25					30		
Glu	Thr	Val	Leu	Asp	Ser	Ser	Ala	Ser	Phe	Asp	Gly	Asn	Lys	Asn	Gly
		35					40					45			
Asn	Phe	Ser	Val	Arg	Glu	Ser	Gln	Glu	Asp	Ala	Gly	Thr	Thr	Tyr	Leu
		50				55					60				
Phe	Lys	Gly	Asn	Val	Thr	Leu	Glu	Asn	Ile	Pro	Gly	Thr	Gly	Thr	Ala
65					70					75					80
Ile	Thr	Lys	Ser	Cys	Phe	Asn	Asn	Thr	Lys	Gly	Asp	Leu	Thr	Phe	Thr
				85					90					95	

Gly	Asn	Gly	Asn	Ser	Leu	Leu	Phe	Gln	Thr	Val	Asp	Ala	Gly	Thr	Val
			100					105					110		
Ala	Gly	Ala	Ala	Val	Asn	Ser	Ser	Val	Val	Asp	Lys	Ser	Thr	Thr	Phe
		115					120					125			
Ile	Gly	Phe	Ser	Ser	Leu	Ser	Phe	Ile	Ala	Ser	Pro	Gly	Ser	Ser	Ile
	130					135					140				
Thr	Thr	Gly	Lys	Gly	Ala	Val	Ser	Cys	Ser	Thr	Gly	Ser	Leu	Ser	Leu
145					150					155					160
Thr	Lys	Met	Ser	Val	Cys	Ser	Ser	Ala	Lys	Thr	Phe	Gln	Arg	Ile	Met
			165						170					175	
Ala	Val	Leu	Ser	Pro	Gln	Lys	Leu	Phe	His						
			180					185							

<210> 17

<211> 780

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0015

<400> 17

Leu	Glu	Phe	Asp	Lys	Asn	Val	Ser	Leu	Leu	Phe	Ser	Lys	Asn	Phe	Ser
1				5					10					15	
Thr	Asp	Asn	Gly	Gly	Ala	Ile	Thr	Ala	Lys	Thr	Leu	Ser	Leu	Thr	Gly
		20						25					30		
Thr	Thr	Met	Ser	Ala	Leu	Phe	Ser	Glu	Asn	Thr	Ser	Ser	Lys	Lys	Gly
		35					40					45			
Gly	Ala	Ile	Gln	Thr	Ser	Asp	Ala	Leu	Thr	Ile	Thr	Gly	Asn	Gln	Gly
	50					55					60				
Glu	Val	Ser	Phe	Ser	Asp	Asn	Thr	Ser	Ser	Asp	Ser	Gly	Ala	Ala	Ile
65					70					75					80
Phe	Thr	Glu	Ala	Ser	Val	Thr	Ile	Ser	Asn	Asn	Ala	Lys	Val	Ser	Phe
			85						90					95	
Ile	Asp	Asn	Lys	Val	Thr	Gly	Ala	Ser	Ser	Ser	Thr	Thr	Gly	Asp	Met
		100						105					110		
Ser	Gly	Gly	Ala	Ile	Cys	Ala	Tyr	Lys	Thr	Ser	Thr	Asp	Thr	Lys	Val
		115				120						125			
Thr	Leu	Thr	Gly	Asn	Gln	Met	Leu	Leu	Phe	Ser	Asn	Asn	Thr	Ser	Thr
	130					135						140			
Thr	Ala	Gly	Gly	Ala	Ile	Tyr	Val	Lys	Lys	Leu	Glu	Leu	Ala	Ser	Gly
145					150					155					160
Gly	Leu	Thr	Leu	Phe	Ser	Arg	Asn	Ser	Val	Asn	Gly	Gly	Thr	Ala	Pro
			165						170					175	
Lys	Gly	Gly	Ala	Ile	Ala	Ile	Glu	Asp	Ser	Gly	Glu	Leu	Ser	Leu	Ser
			180					185					190		
Ala	Asp	Ser	Gly	Asp	Ile	Val	Phe	Leu	Gly	Asn	Thr	Val	Thr	Ser	Thr
		195					200					205			
Thr	Pro	Gly	Thr	Asn	Arg	Ser	Ser	Ile	Asp	Leu	Gly	Thr	Ser	Ala	Lys
	210					215						220			
Met	Thr	Ala	Leu	Arg	Ser	Ala	Ala	Gly	Arg	Ala	Ile	Tyr	Phe	Tyr	Asp
225				230						235					240
Pro	Ile	Thr	Thr	Gly	Ser	Ser	Thr	Thr	Val	Thr	Asp	Val	Leu	Lys	Val
			245						250					255	
Asn	Glu	Thr	Pro	Ala	Asp	Ser	Ala	Leu	Gln	Tyr	Thr	Gly	Asn	Ile	Ile
			260					265					270		
Phe	Thr	Gly	Glu	Lys	Leu	Ser	Glu	Thr	Glu	Ala	Ala	Asp	Ser	Lys	Asn
		275					280					285			
Leu	Thr	Ser	Lys	Leu	Leu	Gln	Pro	Val	Thr	Leu	Ser	Gly	Gly	Thr	Leu
	290					295						300			

Ser	Leu	Lys	His	Gly	Val	Thr	Leu	Gln	Thr	Gln	Ala	Phe	Thr	Gln	Gln
305					310					315					320
Ala	Asp	Ser	Arg	Leu	Glu	Met	Asp	Val	Gly	Thr	Thr	Leu	Glu	Pro	Ala
				325					330					335	
Asp	Thr	Ser	Thr	Ile	Asn	Asn	Leu	Val	Ile	Asn	Ile	Ser	Ser	Ile	Asp
			340					345						350	
Gly	Ala	Lys	Lys	Ala	Lys	Ile	Glu	Thr	Lys	Ala	Thr	Ser	Lys	Asn	Leu
		355					360						365		
Thr	Leu	Ser	Gly	Thr	Ile	Thr	Leu	Leu	Asp	Pro	Thr	Gly	Thr	Phe	Tyr
	370					375							380		
Glu	Asn	His	Ser	Leu	Arg	Asn	Pro	Gln	Ser	Tyr	Asp	Ile	Leu	Glu	Leu
385					390					395					400
Lys	Ala	Ser	Gly	Thr	Val	Thr	Ser	Thr	Ala	Val	Thr	Pro	Asp	Pro	Ile
				405					410					415	
Met	Gly	Glu	Lys	Phe	His	Tyr	Gly	Tyr	Gln	Gly	Thr	Trp	Gly	Pro	Ile
			420				425						430		
Val	Trp	Gly	Thr	Gly	Ala	Ser	Thr	Thr	Ala	Thr	Phe	Asn	Trp	Thr	Lys
	435						440						445		
Thr	Gly	Tyr	Ile	Pro	Asn	Pro	Glu	Arg	Ile	Gly	Ser	Leu	Val	Pro	Asn
	450					455						460			
Ser	Leu	Trp	Asn	Ala	Phe	Ile	Asp	Ile	Ser	Ser	Leu	His	Tyr	Leu	Met
465					470					475					480
Glu	Thr	Ala	Asn	Glu	Gly	Leu	Gln	Gly	Asp	Arg	Ala	Phe	Trp	Cys	Ala
				485					490					495	
Gly	Leu	Ser	Asn	Phe	Phe	His	Lys	Asp	Ser	Thr	Lys	Thr	Arg	Arg	Gly
			500					505					510		
Phe	Arg	His	Leu	Ser	Gly	Gly	Tyr	Val	Ile	Gly	Gly	Asn	Leu	His	Thr
		515					520						525		
Cys	Ser	Asp	Lys	Ile	Leu	Ser	Ala	Ala	Phe	Cys	Gln	Leu	Phe	Gly	Arg
	530					535					540				
Asp	Arg	Asp	Tyr	Phe	Val	Ala	Lys	Asn	Gln	Gly	Thr	Val	Tyr	Gly	Gly
545					550					555					560
Thr	Leu	Tyr	Tyr	Gln	His	Asn	Glu	Thr	Tyr	Ile	Ser	Leu	Pro	Cys	Lys
				565					570					575	
Leu	Arg	Pro	Cys	Ser	Leu	Ser	Tyr	Val	Pro	Thr	Glu	Ile	Pro	Val	Leu
			580					585					590		
Phe	Ser	Gly	Asn	Leu	Ser	Tyr	Thr	His	Thr	Asp	Asn	Asp	Leu	Lys	Thr
		595					600					605			
Lys	Tyr	Thr	Thr	Tyr	Pro	Thr	Val	Lys	Gly	Ser	Trp	Gly	Asn	Asp	Ser
		610				615					620				
Phe	Ala	Leu	Glu	Phe	Gly	Gly	Arg	Ala	Pro	Ile	Cys	Leu	Asp	Glu	Ser
625					630					635					640
Ala	Leu	Phe	Glu	Gln	Tyr	Met	Pro	Phe	Met	Lys	Leu	Gln	Phe	Val	Tyr
				645					650					655	
Ala	His	Gln	Glu	Gly	Phe	Lys	Glu	Gln	Gly	Thr	Glu	Ala	Arg	Glu	Phe
			660					665					670		
Gly	Ser	Ser	Arg	Leu	Val	Asn	Leu	Ala	Leu	Pro	Ile	Gly	Ile	Arg	Phe
		675					680						685		
Asp	Lys	Glu	Ser	Asp	Cys	Gln	Asp	Ala	Thr	Tyr	Asn	Leu	Thr	Leu	Gly
	690					695					700				
Tyr	Thr	Val	Asp	Leu	Val	Arg	Ser	Asn	Pro	Asp	Cys	Thr	Thr	Thr	Leu
705					710					715					720
Arg	Ile	Ser	Gly	Asp	Ser	Trp	Lys	Thr	Phe	Gly	Thr	Asn	Leu	Ala	Arg
				725					730					735	
Gln	Ala	Leu	Val	Leu	Arg	Ala	Gly	Asn	His	Phe	Cys	Phe	Asn	Ser	Asn
			740				745						750		
Phe	Glu	Ala	Phe	Ser	Gln	Phe	Ser	Phe	Glu	Leu	Arg	Gly	Ser	Ser	Arg
		755					760					765			
Asn	Tyr	Asn	Val	Asp	Leu	Gly	Ala	Lys	Tyr	Gln	Phe				
	770					775					780				

<210> 18
 <211> 602
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0016

<400> 18
 Arg Ser Asp Phe Ala Leu Lys Arg Gly Cys His Met Arg Ser Ser Phe
 1 5 10 15
 Ser Leu Leu Leu Ile Ser Ser Ser Leu Ala Phe Pro Leu Leu Met Ser
 20 25 30
 Val Ser Ala Asp Ala Ala Asp Leu Thr Leu Gly Ser Arg Asp Ser Tyr
 35 40 45
 Asn Gly Asp Thr Ser Thr Thr Glu Phe Thr Pro Lys Ala Ala Thr Ser
 50 55 60
 Asp Ala Ser Gly Thr Thr Tyr Ile Leu Asp Gly Asp Val Ser Ile Ser
 65 70 75 80
 Gln Ala Gly Lys Gln Thr Ser Leu Thr Thr Ser Cys Phe Ser Asn Thr
 85 90 95
 Ala Gly Asn Leu Thr Phe Leu Gly Asn Gly Phe Ser Leu His Phe Asp
 100 105 110
 Asn Ile Ile Ser Ser Thr Val Ala Gly Val Val Val Ser Asn Thr Ala
 115 120 125
 Ala Ser Gly Ile Thr Lys Phe Ser Gly Phe Ser Thr Leu Arg Met Leu
 130 135 140
 Ala Ala Pro Arg Thr Thr Gly Lys Gly Ala Ile Lys Ile Thr Asp Gly
 145 150 155 160
 Leu Val Phe Glu Ser Ile Gly Asn Leu Asp Leu Asn Glu Asn Ala Ser
 165 170 175
 Ser Glu Asn Gly Gly Ala Ile Asn Thr Lys Thr Leu Ser Leu Thr Gly
 180 185 190
 Ser Thr Arg Phe Val Ala Phe Leu Gly Asn Ser Ser Ser Gln Gln Gly
 195 200 205
 Gly Ala Ile Tyr Ala Ser Gly Asp Ser Val Ile Ser Glu Asn Ala Gly
 210 215 220
 Ile Leu Ser Phe Gly Asn Asn Ser Ala Thr Thr Ser Gly Gly Ala Ile
 225 230 235 240
 Ser Ala Glu Gly Asn Leu Val Ile Ser Asn Asn Gln Asn Ile Phe Phe
 245 250 255
 Asp Gly Cys Lys Ala Thr Thr Asn Gly Gly Ala Ile Asp Cys Asn Lys
 260 265 270
 Ala Gly Ala Asn Pro Asp Pro Ile Leu Thr Leu Ser Gly Asn Glu Ser
 275 280 285
 Leu His Phe Leu Asn Asn Thr Ala Gly Asn Ser Gly Gly Ala Ile Tyr
 290 295 300
 Thr Lys Lys Leu Val Leu Ser Ser Gly Arg Gly Gly Val Leu Phe Ser
 305 310 315 320
 Asn Asn Lys Ala Ala Asn Ala Thr Pro Lys Gly Gly Ala Ile Ala Ile
 325 330 335
 Leu Asp Ser Gly Glu Ile Ser Ile Ser Ala Asp Leu Gly Asn Ile Ile
 340 345 350
 Phe Glu Gly Asn Thr Thr Ser Thr Thr Gly Ser Pro Ala Ser Val Thr
 355 360 365
 Arg Asn Ala Ile Asp Leu Ala Ser Asn Ala Lys Phe Leu Asn Leu Arg
 370 375 380
 Ala Thr Arg Gly Asn Lys Val Ile Phe Tyr Asp Pro Ile Thr Ser Ser
 385 390 395 400
 Gly Ala Thr Asp Lys Leu Ser Leu Asn Lys Ala Asp Ala Gly Ser Gly
 405 410 415

Asn	Thr	Tyr	Glu	Gly	Tyr	Ile	Val	Phe	Ser	Gly	Glu	Lys	Leu	Ser	Glu
			420					425					430		
Glu	Glu	Leu	Lys	Lys	Pro	Asp	Asn	Leu	Lys	Ser	Thr	Phe	Thr	Gln	Ala
		435					440					445			
Val	Glu	Leu	Ala	Ala	Gly	Ala	Leu	Val	Leu	Lys	Asp	Gly	Val	Thr	Val
	450					455					460				
Val	Ala	Asn	Thr	Ile	Thr	Gln	Val	Glu	Gly	Ser	Lys	Val	Val	Met	Asp
465					470					475				480	
Gly	Gly	Thr	Thr	Phe	Glu	Ala	Ser	Ala	Glu	Gly	Val	Thr	Leu	Asn	Gly
			485						490				495		
Leu	Ala	Ile	Asn	Ile	Asp	Ser	Leu	Asp	Gly	Thr	Asn	Lys	Ala	Ile	Ile
		500						505					510		
Lys	Ala	Thr	Ala	Ala	Ser	Lys	Asp	Val	Ala	Leu	Ser	Gly	Pro	Ile	Met
	515						520					525			
Leu	Val	Asp	Ala	Gln	Gly	Asn	Tyr	Tyr	Glu	His	His	Asn	Leu	Ser	Gln
	530					535						540			
Gln	Gln	Val	Phe	Pro	Leu	Ile	Glu	Leu	Ser	Ala	Gln	Gly	Thr	Met	Thr
545					550					555				560	
Thr	Thr	Asp	Ile	Pro	Asp	Thr	Pro	Ile	Leu	Asn	Thr	Thr	Asn	His	Tyr
			565					570					575		
Gly	Tyr	Gln	Gly	Asn	Trp	Asn	Asn	Cys	Leu	Gly	Arg	Arg	Cys	Asn	Cys
		580					585						590		
Lys	Asn	Lys	Lys	Cys	Tyr	Leu	Asn	Leu	Asp						
		595					600								

<210> 19
 <211> 359
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0017

Ile	Leu	Arg	Ile	Thr	Met	Gly	Ile	Lys	Gly	Thr	Gly	Ile	Ile	Val	Trp
1				5					10					15	
Val	Asp	Asp	Ala	Thr	Ala	Lys	Thr	Lys	Asn	Ala	Thr	Leu	Thr	Trp	Thr
			20					25					30		
Lys	Thr	Gly	Tyr	Lys	Pro	Asn	Pro	Glu	Arg	Gln	Gly	Pro	Leu	Val	Pro
	35					40					45				
Asn	Ser	Leu	Trp	Gly	Ser	Phe	Val	Asp	Val	Arg	Ser	Ile	Gln	Ser	Leu
	50					55					60				
Met	Asp	Arg	Ser	Thr	Ser	Ser	Leu	Ser	Ser	Ser	Thr	Asn	Leu	Trp	Val
65					70					75				80	
Ser	Gly	Ile	Ala	Asp	Phe	Leu	His	Glu	Asp	Gln	Lys	Gly	Asn	Gln	Arg
			85					90					95		
Ser	Tyr	Arg	His	Ser	Ser	Ala	Gly	Tyr	Ala	Leu	Gly	Gly	Gly	Phe	Phe
	100						105						110		
Thr	Ala	Ser	Glu	Asn	Phe	Phe	Asn	Phe	Ala	Phe	Cys	Gln	Leu	Phe	Gly
	115						120					125			
Tyr	Asp	Lys	Asp	His	Leu	Val	Ala	Lys	Asn	His	Thr	His	Val	Tyr	Ala
	130					135					140				
Gly	Ala	Met	Ser	Tyr	Arg	His	Leu	Gly	Glu	Ser	Lys	Thr	Leu	Ala	Lys
145					150					155				160	
Ile	Leu	Ser	Gly	Asn	Ser	Asp	Ser	Leu	Pro	Phe	Val	Phe	Asn	Ala	Arg
			165						170					175	
Phe	Ala	Tyr	Gly	His	Thr	Asp	Asn	Asn	Met	Thr	Thr	Lys	Tyr	Thr	Gly
	180						185						190		
Tyr	Ser	Pro	Val	Lys	Gly	Ser	Trp	Gly	Asn	Asp	Ala	Phe	Gly	Ile	Glu
	195						200					205			

Cys Gly Gly Ala Ile Pro Val Val Ala Ser Gly Arg Arg Ser Trp Val
 210 215 220
 Asp Thr His Thr Pro Phe Leu Asn Leu Glu Met Ile Tyr Ala His Gln
 225 230 235 240
 Asn Asp Phe Lys Glu Asn Gly Thr Glu Gly Arg Ser Phe Gln Ser Glu
 245 250 255
 Asp Leu Phe Asn Leu Ala Val Pro Val Gly Ile Lys Phe Glu Lys Phe
 260 265 270
 Ser Asp Lys Ser Thr Tyr Asp Leu Ser Ile Ala Tyr Val Pro Asp Val
 275 280 285
 Ile Arg Asn Asp Pro Gly Cys Thr Thr Thr Leu Met Val Ser Gly Asp
 290 295 300
 Ser Trp Ser Thr Cys Gly Thr Ser Leu Ser Arg Gln Ala Leu Leu Val
 305 310 315 320
 Arg Ala Gly Asn His His Ala Phe Ala Ser Asn Phe Glu Val Phe Ser
 325 330 335
 Gln Phe Glu Val Glu Leu Arg Gly Ser Ser Arg Ser Tyr Ala Ile Asp
 340 345 350
 Leu Gly Gly Arg Phe Gly Phe
 355

<210> 20
 <211> 497
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0018

<400> 20
 Glu Tyr Asn Met Lys Thr Ser Val Ser Met Leu Leu Ala Leu Leu Cys
 1 5 10 15
 Ser Gly Ala Ser Ser Ile Val Leu His Ala Ala Thr Thr Pro Leu Asn
 20 25 30
 Pro Glu Asp Gly Phe Ile Gly Glu Gly Asn Thr Asn Thr Phe Ser Pro
 35 40 45
 Lys Ser Thr Thr Asp Ala Ala Gly Thr Thr Tyr Ser Leu Thr Gly Glu
 50 55 60
 Val Leu Tyr Ile Asp Pro Gly Lys Gly Gly Ser Ile Thr Gly Thr Cys
 65 70 75 80
 Phe Val Glu Thr Ala Gly Asp Leu Thr Phe Leu Gly Asn Gly Asn Thr
 85 90 95
 Leu Lys Phe Leu Ser Val Asp Ala Gly Ala Asn Ile Ala Val Ala His
 100 105 110
 Val Gln Gly Ser Lys Asn Leu Ser Phe Thr Asp Phe Leu Ser Leu Val
 115 120 125
 Ile Thr Glu Ser Pro Lys Ser Ala Val Thr Thr Gly Lys Gly Ser Leu
 130 135 140
 Val Ser Leu Gly Ala Val Gln Leu Gln Asp Ile Asn Thr Leu Val Leu
 145 150 155 160
 Thr Ser Asn Ala Ser Val Glu Asp Gly Gly Val Ile Lys Gly Asn Ser
 165 170 175
 Cys Leu Ile Gln Gly Ile Lys Asn Ser Ala Ile Phe Gly Gln Asn Thr
 180 185 190
 Ser Ser Lys Lys Gly Gly Ala Ile Ser Thr Thr Gln Gly Leu Thr Ile
 195 200 205
 Glu Asn Asn Leu Gly Thr Leu Lys Phe Asn Glu Asn Lys Ala Val Thr
 210 215 220
 Ser Gly Gly Ala Leu Asp Leu Gly Ala Ala Ser Thr Phe Thr Ala Asn
 225 230 235 240

His Glu Leu Ile Phe Ser Gln Asn Lys Thr Ser Gly Asn Ala Ala Asn
 245 250 255
 Gly Gly Ala Ile Asn Cys Ser Gly Asp Leu Thr Phe Thr Asp Asn Thr
 260 265 270
 Ser Leu Leu Leu Gln Glu Asn Ser Thr Met Gln Asp Gly Gly Ala Leu
 275 280 285
 Cys Ser Thr Gly Thr Ile Ser Ile Thr Gly Ser Asp Ser Ile Asn Val
 290 295 300
 Ile Gly Asn Thr Ser Gly Gln Lys Gly Gly Ala Ile Ser Ala Ala Ser
 305 310 315 320
 Leu Lys Ile Leu Gly Gly Gln Gly Gly Ala Leu Phe Ser Asn Asn Val
 325 330 335
 Val Thr His Ala Thr Pro Leu Gly Gly Ala Ile Phe Ile Asn Thr Gly
 340 345 350
 Gly Ser Leu Gln Leu Phe Thr Gln Gly Gly Asp Ile Val Phe Glu Gly
 355 360 365
 Asn Gln Val Thr Thr Thr Ala Pro Asn Ala Thr Thr Lys Arg Asn Val
 370 375 380
 Ile His Leu Glu Ser Thr Ala Lys Trp Thr Gly Leu Ala Ala Ser Gln
 385 390 395 400
 Gly Asn Ala Ile Tyr Phe Tyr Asp Pro Ile Thr Thr Asn Asp Thr Gly
 405 410 415
 Ala Ser Asp Asn Leu Arg Ile Asn Glu Val Ser Ala Asn Gln Lys Leu
 420 425 430
 Ser Gly Ser Ile Val Phe Ser Gly Glu Arg Leu Ser Thr Ala Glu Ala
 435 440 445
 Ile Ala Glu Asn Leu Thr Ser Arg Ile Asn Gln Pro Val Thr Leu Val
 450 455 460
 Glu Gly Ser Leu Val Leu Lys Gln Gly Val Thr Leu Ile Thr Gln Gly
 465 470 475 480
 Phe Ser Gln Glu Pro Glu Ser Thr Leu Leu Leu Asp Leu Gly Thr Ser
 485 490 495
 Leu

<210> 21
 <211> 450
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0019

<400> 21
 Ala Ser Thr Glu Asp Ile Val Ile Thr Asn Leu Ser Ile Asn Ala Asp
 1 5 10 15
 Thr Ile Tyr Gly Lys Asn Pro Ile Asn Ile Val Ala Ser Ala Ala Asn
 20 25 30
 Lys Asn Ile Thr Leu Thr Gly Thr Leu Ala Leu Val Asn Ala Asp Gly
 35 40 45
 Ala Phe Tyr Glu Asn His Thr Leu Gln Asp Ser Gln Asp Tyr Ser Phe
 50 55 60
 Val Lys Leu Ser Pro Gly Ala Gly Gly Thr Ile Ile Thr Gln Asp Ala
 65 70 75 80
 Ser Gln Lys Pro Leu Glu Val Ala Pro Ser Arg Pro His Tyr Gly Tyr
 85 90 95
 Gln Gly His Trp Asn Val Gln Val Ile Pro Gly Thr Gly Thr Gln Pro
 100 105 110
 Ser Gln Ala Asn Leu Glu Trp Val Arg Thr Gly Tyr Leu Pro Asn Pro
 115 120 125

Glu Arg Gln Gly Ser Leu Val Pro Asn Ser Leu Trp Gly Ser Phe Val
 130 135 140
 Asp Gln Arg Ala Ile Gln Glu Ile Met Val Asn Ser Ser Gln Ile Leu
 145 150 155 160
 Cys Gln Glu Arg Gly Val Trp Gly Ala Gly Ile Ala Asn Phe Leu His
 165 170 175
 Arg Asp Lys Ile Asn Glu His Gly Tyr Arg His Ser Gly Val Gly Tyr
 180 185 190
 Leu Val Gly Val Gly Thr His Ala Phe Ser Asp Ala Thr Ile Asn Ala
 195 200 205
 Ala Phe Cys Gln Leu Phe Ser Arg Asp Lys Asp Tyr Val Val Ser Lys
 210 215 220
 Asn His Gly Thr Ser Tyr Ser Gly Val Val Phe Leu Glu Asp Thr Leu
 225 230 235 240
 Glu Phe Arg Ser Pro Gln Gly Phe Tyr Thr Asp Ser Ser Ser Glu Ala
 245 250 255
 Cys Cys Asn Gln Val Val Thr Ile Asp Met Gln Leu Ser Tyr Ser His
 260 265 270
 Arg Asn Asn Asp Met Lys Thr Lys Tyr Thr Tyr Pro Glu Ala Gln
 275 280 285
 Gly Ser Trp Ala Asn Asp Val Phe Gly Leu Glu Phe Gly Ala Thr Thr
 290 295 300
 Tyr Tyr Tyr Pro Asn Ser Thr Phe Leu Phe Asp Tyr Tyr Ser Pro Phe
 305 310 315 320
 Leu Arg Leu Gln Cys Thr Tyr Ala His Gln Glu Asp Phe Lys Glu Thr
 325 330 335
 Gly Gly Glu Val Arg His Phe Thr Ser Gly Asp Leu Phe Asn Leu Ala
 340 345 350
 Val Pro Ile Gly Val Lys Phe Glu Arg Phe Ser Asp Cys Lys Arg Gly
 355 360 365
 Ser Tyr Glu Leu Thr Leu Ala Tyr Val Pro Asp Val Ile Arg Lys Asp
 370 375 380
 Pro Lys Ser Thr Ala Thr Leu Ala Ser Gly Ala Thr Trp Ser Thr His
 385 390 395 400
 Gly Asn Asn Leu Ser Arg Gln Gly Leu Gln Leu Arg Leu Gly Asn His
 405 410 415
 Cys Leu Ile Asn Pro Gly Ile Glu Val Phe Ser His Gly Ala Ile Glu
 420 425 430
 Leu Arg Gly Ser Ser Arg Asn Tyr Asn Ile Asn Leu Gly Gly Lys Tyr
 435 440 445
 Arg Phe
 450

<210> 22
 <211> 705
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0020

<400> 22
 Lys Leu Trp Ser Asn Pro Asn Leu Arg Leu Met Lys Arg Cys Phe Leu
 1 5 10 15
 Phe Leu Ala Ser Phe Val Leu Met Gly Ser Ser Ala Asp Ala Leu Thr
 20 25 30
 His Gln Glu Ala Val Lys Lys Lys Asn Ser Tyr Leu Ser His Phe Lys
 35 40 45
 Ser Val Ser Gly Ile Val Thr Ile Glu Asp Gly Val Leu Asn Ile His
 50 55 60

Asn	Asn	Leu	Arg	Ile	Gln	Ala	Asn	Lys	Val	Tyr	Val	Glu	Asn	Thr	Val
65					70					75					80
Gly	Gln	Ser	Leu	Lys	Leu	Val	Ala	His	Gly	Asn	Val	Met	Val	Asn	Tyr
				85					90					95	
Arg	Ala	Lys	Thr	Leu	Val	Cys	Asp	Tyr	Leu	Glu	Tyr	Tyr	Glu	Asp	Thr
			100					105					110		
Asp	Ser	Cys	Leu	Leu	Thr	Asn	Gly	Arg	Phe	Ala	Met	Tyr	Pro	Trp	Phe
		115					120					125			
Leu	Gly	Gly	Ser	Met	Ile	Thr	Leu	Thr	Pro	Glu	Thr	Ile	Val	Ile	Arg
	130					135						140			
Lys	Gly	Tyr	Ile	Ser	Thr	Ser	Glu	Gly	Pro	Lys	Lys	Asp	Leu	Cys	Leu
145					150					155					160
Ser	Gly	Asp	Tyr	Leu	Glu	Tyr	Ser	Ser	Asp	Ser	Leu	Leu	Ser	Ile	Gly
				165					170					175	
Lys	Thr	Thr	Leu	Arg	Val	Cys	Arg	Ile	Pro	Ile	Leu	Phe	Leu	Pro	Pro
			180					185					190		
Phe	Ser	Ile	Met	Pro	Met	Glu	Ile	Pro	Lys	Pro	Pro	Ile	Asn	Phe	Arg
		195						200					205		
Gly	Gly	Thr	Gly	Gly	Phe	Leu	Gly	Ser	Tyr	Leu	Gly	Met	Ser	Tyr	Ser
	210					215					220				
Pro	Ile	Ser	Arg	Lys	His	Phe	Ser	Ser	Thr	Phe	Phe	Leu	Asp	Ser	Phe
225					230					235					240
Phe	Lys	His	Gly	Val	Gly	Met	Gly	Phe	Asn	Leu	His	Cys	Ser	Gln	Lys
				245					250					255	
Gln	Val	Pro	Glu	Asn	Val	Phe	Asn	Met	Lys	Ser	Tyr	Tyr	Ala	His	Arg
			260					265					270		
Leu	Ala	Ile	Asp	Met	Ala	Glu	Ala	His	Asp	Arg	Tyr	Arg	Leu	His	Gly
		275					280					285			
Asp	Phe	Cys	Phe	Thr	His	Lys	His	Val	Asn	Phe	Ser	Gly	Glu	Tyr	His
	290					295					300				
Leu	Ser	Asp	Ser	Trp	Glu	Thr	Val	Ala	Asp	Ile	Phe	Pro	Asn	Asn	Phe
305					310					315					320
Met	Leu	Lys	Asn	Thr	Gly	Pro	Thr	Arg	Val	Asp	Cys	Thr	Trp	Asn	Asp
			325						330					335	
Asn	Tyr	Phe	Glu	Gly	Tyr	Leu	Thr	Ser	Ser	Val	Lys	Val	Asn	Ser	Phe
			340					345					350		
Gln	Asn	Ala	Asn	Gln	Glu	Leu	Pro	Tyr	Leu	Thr	Leu	Arg	Gln	Tyr	Pro
		355					360					365			
Ile	Ser	Ile	Tyr	Asn	Thr	Gly	Val	Tyr	Leu	Glu	Asn	Ile	Val	Glu	Cys
	370					375					380				
Gly	Tyr	Leu	Asn	Phe	Ala	Phe	Ser	Asp	His	Ile	Val	Gly	Glu	Asn	Phe
385					390					395					400
Ser	Ser	Leu	Arg	Leu	Ala	Ala	Arg	Pro	Lys	Leu	His	Lys	Thr	Val	Pro
				405					410					415	
Leu	Pro	Ile	Gly	Thr	Leu	Ser	Ser	Thr	Leu	Gly	Ser	Ser	Leu	Ile	Tyr
			420					425					430		
Tyr	Ser	Asp	Val	Pro	Glu	Ile	Ser	Ser	Arg	His	Ser	Gln	Leu	Ser	Ala
		435					440					445			
Lys	Leu	Gln	Leu	Asp	Tyr	Arg	Phe	Leu	Leu	His	Lys	Ser	Tyr	Ile	Gln
	450					455					460				
Arg	Arg	His	Ile	Ile	Glu	Pro	Phe	Val	Thr	Phe	Ile	Thr	Glu	Thr	Arg
465					470					475					480
Pro	Leu	Ala	Lys	Asn	Glu	Asp	His	Tyr	Ile	Phe	Ser	Ile	Gln	Asp	Ala
				485					490					495	
Phe	His	Ser	Leu	Asn	Leu	Leu	Lys	Ala	Gly	Ile	Asp	Thr	Ser	Val	Leu
			500					505					510		
Ser	Lys	Thr	Asn	Pro	Arg	Phe	Pro	Arg	Ile	His	Ala	Lys	Leu	Trp	Thr
		515					520					525			
Thr	His	Ile	Leu	Ser	Asn	Thr	Glu	Ser	Lys	Pro	Thr	Phe	Pro	Lys	Thr
			530				535					540			

Ala Cys Glu Leu Ser Leu Pro Phe Gly Lys Lys Asn Thr Val Ser Leu
 545 550 555 560
 Asp Ala Glu Trp Ile Trp Lys Lys His Cys Trp Asp His Met Asn Ile
 565 570 575
 Arg Trp Glu Trp Ile Gly Asn Asp Asn Val Ala Met Thr Leu Glu Ser
 580 585 590
 Leu His Arg Ser Lys Tyr Ser Leu Ile Lys Cys Asp Arg Glu Asn Phe
 595 600 605
 Ile Leu Asp Val Ser Arg Pro Ile Asp Gln Leu Leu Asp Ser Pro Leu
 610 615 620
 Ser Asp His Arg Asn Leu Ile Leu Gly Lys Leu Phe Val Arg Pro His
 625 630 635 640
 Pro Cys Trp Asn Tyr Arg Leu Ser Leu Arg Tyr Gly Trp His Arg Gln
 645 650 655
 Asp Thr Pro Asn Tyr Leu Glu Tyr Gln Met Ile Leu Gly Thr Lys Ile
 660 665 670
 Phe Glu His Trp Gln Leu Tyr Gly Val Tyr Glu Arg Arg Glu Ala Asp
 675 680 685
 Ser Arg Phe Phe Phe Phe Leu Lys Leu Asp Lys Pro Lys Lys Pro Pro
 690 695 700
 Phe
 705

<210> 23
 <211> 588
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0021

<400> 23
 Cys Ser Arg Ser Pro Tyr Pro Asn Ile Glu Ile Leu Ala Arg Gly Val
 1 5 10 15
 Glu His Arg Ser Met Gly Leu Phe His Leu Thr Leu Phe Gly Leu Leu
 20 25 30
 Leu Cys Ser Leu Pro Ile Ser Leu Val Ala Lys Phe Pro Glu Ser Val
 35 40 45
 Gly His Lys Ile Leu Tyr Ile Ser Thr Gln Ser Thr Gln Gln Ala Leu
 50 55 60
 Ala Thr Tyr Leu Glu Ala Leu Asp Ala Tyr Gly Asp His Asp Phe Phe
 65 70 75 80
 Val Leu Arg Lys Ile Gly Glu Asp Tyr Leu Lys Gln Ser Ile His Ser
 85 90 95
 Ser Asp Pro Gln Thr Arg Lys Ser Thr Ile Ile Gly Ala Gly Leu Ala
 100 105 110
 Gly Ser Ser Glu Ala Leu Asp Val Leu Ser Gln Ala Met Glu Thr Ala
 115 120 125
 Asp Pro Leu Gln Gln Leu Leu Val Leu Ser Ala Val Ser Gly His Leu
 130 135 140
 Gly Lys Thr Ser Asp Asp Leu Leu Phe Lys Ala Leu Ala Ser Pro Tyr
 145 150 155 160
 Pro Val Ile Arg Leu Glu Ala Ala Tyr Arg Leu Ala Asn Leu Lys Asn
 165 170 175
 Thr Lys Val Ile Asp His Leu His Ser Phe Ile His Lys Leu Pro Glu
 180 185 190
 Glu Ile Gln Cys Leu Ser Ala Ala Ile Phe Leu Arg Leu Glu Thr Glu
 195 200 205
 Glu Ser Asp Ala Tyr Ile Arg Asp Leu Leu Ala Ala Lys Lys Ser Ala
 210 215 220

Ile Arg Ser Ala Thr Ala Leu Gln Ile Gly Glu Tyr Gln Gln Lys Arg
 225 230 235 240
 Phe Leu Pro Thr Leu Arg Asn Leu Leu Thr Ser Ala Ser Pro Gln Asp
 245 250 255
 Gln Glu Ala Ile Leu Tyr Ala Leu Gly Lys Leu Lys Asp Gly Gln Ser
 260 265 270
 Tyr Tyr Asn Ile Lys Lys Gln Leu Gln Lys Pro Asp Val Asp Val Thr
 275 280 285
 Leu Ala Ala Ala Gln Ala Leu Ile Ala Leu Gly Lys Glu Glu Asp Ala
 290 295 300
 Leu Pro Val Ile Lys Lys Gln Ala Leu Glu Glu Arg Pro Arg Ala Leu
 305 310 315 320
 Tyr Ala Leu Arg His Leu Pro Ser Glu Ile Gly Ile Pro Ile Ala Leu
 325 330 335
 Pro Ile Phe Leu Lys Thr Lys Asn Ser Glu Ala Lys Leu Asn Val Ala
 340 345 350
 Leu Ala Leu Leu Glu Leu Gly Cys Asp Thr Pro Lys Leu Leu Glu Tyr
 355 360 365
 Ile Thr Glu Arg Leu Val Gln Pro His Tyr Asn Glu Thr Leu Ala Leu
 370 375 380
 Ser Phe Ser Lys Gly Arg Thr Leu Gln Asn Trp Lys Arg Val Asn Ile
 385 390 395 400
 Ile Val Pro Gln Asp Pro Gln Glu Arg Glu Arg Leu Leu Ser Thr Thr
 405 410 415
 Arg Gly Leu Glu Glu Gln Ile Leu Thr Phe Leu Phe Arg Leu Pro Lys
 420 425 430
 Glu Ala Tyr Leu Pro Cys Ile Tyr Lys Leu Leu Ala Ser Gln Lys Thr
 435 440 445
 Gln Leu Ala Thr Thr Ala Ile Ser Phe Leu Ser His Thr Ser His Gln
 450 455 460
 Glu Ala Leu Asp Leu Leu Phe Gln Ala Ala Lys Leu Pro Gly Glu Pro
 465 470 475 480
 Ile Ile Arg Ala Tyr Ala Asp Leu Ala Ile Tyr Asn Leu Thr Lys Asp
 485 490 495
 Pro Glu Lys Lys Arg Ser Leu His Asp Tyr Ala Lys Lys Leu Ile Gln
 500 505 510
 Glu Thr Leu Leu Phe Val Asp Thr Glu Asn Gln Arg Pro His Pro Ser
 515 520 525
 Met Pro Tyr Leu Arg Tyr Gln Val Thr Pro Glu Ser Arg Thr Lys Leu
 530 535 540
 Met Leu Asp Ile Leu Glu Thr Leu Ala Thr Ser Lys Ser Ser Glu Asp
 545 550 555 560
 Ile Arg Leu Leu Ile Gln Leu Met Thr Glu Gly Asp Ala Lys Asn Phe
 565 570 575
 Pro Val Leu Ala Gly Leu Leu Ile Lys Ile Val Glu
 580 585

<210> 24
 <211> 216
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0022

<400> 24
 Thr Ile Leu Gln Val Ile Ser Asn Cys Cys Asn Val Ser Asn Thr Arg
 1 5 10 15
 Ser Phe Tyr Ser Met Ser Leu Pro Leu Val Leu Gly Ser Ser Ser Pro
 20 25 30

Arg Arg Lys Phe Ile Leu Glu Lys Phe Arg Val Pro Phe Thr Val Ile
 35 40 45
 Pro Ser Asn Phe Asp Glu Ser Lys Val Ser Tyr Ser Gly Asp Pro Ile
 50 55 60
 Ala Tyr Thr Gln Glu Leu Ala Ala Gln Lys Ala Tyr Ala Val Ser Glu
 65 70 75 80
 Leu His Ser Pro Cys Asp Cys Ile Ile Leu Thr Gly Asp Thr Ile Val
 85 90 95
 Ser Tyr Asp Gly Arg Ile Phe Thr Lys Pro Gln Asp Lys Ala Asp Ala
 100 105 110
 Ile Gln Met Leu Lys Thr Leu Arg Asn Gln Thr His Asp Val Val Thr
 115 120 125
 Ser Ile Ala Val Leu His Lys Gly Lys Leu Leu Thr Gly Ser Glu Thr
 130 135 140
 Ser Gln Ile Ser Leu Thr Met Ile Pro Asp His Arg Ile Glu Ser Tyr
 145 150 155 160
 Ile Asp Thr Val Gly Thr Leu Asn Asn Cys Gly Ala Tyr Asp Val Cys
 165 170 175
 His Gly Gly Leu Ile Leu Lys Lys Val His Gly Cys Val Tyr Asn Val
 180 185 190
 Gln Gly Leu Pro Ile Gln Thr Leu Lys Tyr Leu Leu Glu Glu Leu Asn
 195 200 205
 Ile Asp Leu Trp Asp Tyr Ser Ile
 210 215

<210> 25
 <211> 548
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0023

<400> 25
 Glu Asn Arg Ala Lys Leu Leu Tyr Ser Lys Gln His Phe Val Met Leu
 1 5 10 15
 Ser Ala Met Ser Ile Val Leu Asp Lys Ile Gly Lys Ser Leu Gly Thr
 20 25 30
 Arg Ile Leu Phe Asp Asp Val Ser Val Val Phe Asn Pro Gly Asn Cys
 35 40 45
 Tyr Gly Leu Thr Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu Leu Lys
 50 55 60
 Ile Ile Met Gly Met Ile Glu Pro Thr Arg Gly Ser Ile Ser Leu Pro
 65 70 75 80
 Lys Lys Val Gly Ile Leu Arg Gln Asn Ile Asp Ser Phe His Asp Thr
 85 90 95
 Thr Val Leu Asp Cys Val Ile Met Gly Asn Thr Arg Leu Trp Glu Ala
 100 105 110
 Leu Gln Arg Arg Asp Asn Leu Tyr Leu Gln Glu Phe Thr Asp Ala Ile
 115 120 125
 Gly Met Glu Leu Gly Glu Ile Glu Glu Ile Ile Gly Glu Glu Asn Gly
 130 135 140
 Tyr Arg Ala Asp Ser Glu Ala Glu Glu Leu Leu Thr Gly Ile Gly Ile
 145 150 155 160
 Pro Asn Glu Met Phe Asp Lys Lys Met Ala Met Ile Pro Ile Asp Leu
 165 170 175
 Gln Phe Arg Val Leu Leu Cys Gln Ala Leu Phe Gly His Pro Glu Ala
 180 185 190
 Leu Leu Leu Asp Glu Pro Thr Asn His Leu Asp Leu Tyr Ser Ile Asn
 195 200 205

Trp Leu Gly Asn Phe Leu Lys Asp Tyr Glu Gly Thr Val Ile Val Val
 210 215 220
 Ser His Asp Arg His Phe Leu Asn Thr Ile Thr Thr His Ile Ala Asp
 225 230 235 240
 Ile Asp Tyr Asp Thr Ile Ile Ile Tyr Pro Gly Asn Tyr Asp Asp Met
 245 250 255
 Val Glu Met Lys Thr Ala Ser Arg Glu Gln Glu Lys Ala Asp Ile Lys
 260 265 270
 Ser Lys Glu Lys Lys Ile Ser Gln Leu Lys Glu Phe Val Ala Lys Phe
 275 280 285
 Gly Ala Gly Ser Arg Ala Ser Gln Val Gln Ser Arg Leu Arg Glu Ile
 290 295 300
 Lys Lys Leu Gln Pro Gln Glu Leu Lys Lys Ser Asn Ile Gln Arg Pro
 305 310 315 320
 Tyr Ile Arg Phe Pro Leu Ser Asp Lys Ser Ser Gly Lys Val Val Leu
 325 330 335
 Ser Leu Glu Ala Ile Thr Lys Asp Tyr Gly Asp His Gln Val Ile His
 340 345 350
 Pro Phe Ser Leu Glu Ile Tyr Gln Gly Asp Lys Leu Gly Ile Ile Gly
 355 360 365
 Asn Asn Gly Leu Gly Lys Thr Thr Leu Met Lys Leu Leu Ala Gly Val
 370 375 380
 Glu Ala Pro Ser Ser Gly Ser Ile Lys Leu Gly His Gln Ala Ile Cys
 385 390 395 400
 Ser Tyr Phe Pro Gln Asn His Ser Asp Val Leu Ala Asp Cys Gly Gln
 405 410 415
 Glu Thr Leu Phe Glu Trp Leu Arg Asn Arg Lys Thr Gly Ile Asn Asp
 420 425 430
 Gln Glu Ile Arg Ser Val Leu Gly Lys Met Leu Phe Gly Gly Asp Asp
 435 440 445
 Ala Phe Lys Gln Ile Gln Ala Leu Ser Gly Gly Glu Thr Ala Arg Leu
 450 455 460
 Leu Met Ala Gly Met Met Leu Glu Asn His Asn Val Leu Ile Leu Asp
 465 470 475 480
 Glu Ala Asn Asn His Leu Asp Leu Glu Ser Val Ser Ala Leu Ser Trp
 485 490 495
 Ala Ile Asn Asp Tyr Lys Gly Thr Ala Ile Phe Val Ser His Asp Arg
 500 505 510
 Gly Leu Ile Gln Asp Cys Ala Thr Lys Leu Leu Ile Phe Asp Lys Asp
 515 520 525
 Lys Ile Thr Phe Phe Asp Gly Thr Met Val Asp Tyr Thr Ala Gly His
 530 535 540
 Lys Gln Leu Leu
 545

<210> 26
 <211> 315
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0024

<400> 26
 Arg Glu Val Met Ile Ala Ser Ile Tyr Ser Phe Leu Asp Tyr Leu Lys
 1 5 10 15
 Met Val Lys Ser Ala Ser Pro His Thr Leu Arg Asn Tyr Cys Leu Asp
 20 25 30
 Leu Asn Gly Leu Lys Ile Phe Leu Glu Glu Arg Gly Asn Leu Ala Pro
 35 40 45

Ser Ser Pro Leu Gln Leu Ala Thr Glu Lys Arg Lys Val Ser Glu Leu
 50 55 60
 Pro Phe Ser Leu Phe Thr Lys Glu His Val Arg Met Tyr Ile Ala Lys
 65 70 75 80
 Leu Ile Glu Asn Gly Lys Ala Lys Arg Thr Ile Lys Arg Cys Leu Ser
 85 90 95
 Ser Ile Lys Ser Phe Ala His Tyr Cys Val Ile Gln Lys Ile Leu Leu
 100 105 110
 Glu Asn Pro Ala Glu Thr Ile His Gly Pro Arg Leu Pro Lys Glu Leu
 115 120 125
 Pro Ser Pro Met Thr Tyr Ala Gln Val Glu Val Leu Met Ala Thr Pro
 130 135 140
 Asp Ile Ser Lys Tyr His Gly Leu Arg Asp Arg Cys Leu Met Glu Leu
 145 150 155 160
 Phe Tyr Ser Ser Gly Leu Arg Ile Ser Glu Ile Val Ala Val Asn Lys
 165 170 175
 Gln Asp Phe Asp Leu Ser Thr His Leu Ile Arg Ile Arg Gly Lys Gly
 180 185 190
 Lys Lys Glu Arg Ile Ile Pro Val Thr Ser Asn Ala Ile Gln Trp Ile
 195 200 205
 Gln Ile Tyr Leu Asn His Pro Asp Arg Lys Arg Leu Glu Lys Asp Pro
 210 215 220
 Gln Ala Ile Phe Leu Asn Arg Phe Gly Arg Arg Ile Ser Thr Arg Ser
 225 230 235 240
 Ile Asp Arg Ser Phe Gln Glu Tyr Leu Arg Arg Ser Gly Leu Ser Gly
 245 250 255
 His Ile Thr Pro His Thr Ile Arg His Thr Ile Ala Thr His Trp Leu
 260 265 270
 Glu Ser Gly Met Asp Leu Lys Thr Ile Gln Ala Leu Leu Gly His Ser
 275 280 285
 Ser Leu Glu Thr Thr Thr Val Tyr Thr Gln Val Ser Val Lys Leu Lys
 290 295 300
 Lys Gln Thr His Gln Glu Ala His Pro His Ala
 305 310 315

<210> 27
 <211> 309
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0025

<400> 27
 Ile Leu Met Ser Ser Arg Glu Leu Ile Ile Leu Gly Cys Ser Ser Gln
 1 5 10 15
 Gln Pro Thr Arg Thr Arg Asn Gln Gly Ala Tyr Leu Phe Arg Trp Asn
 20 25 30
 Gly Glu Gly Leu Leu Phe Asp Pro Gly Glu Gly Thr Gln Arg Gln Phe
 35 40 45
 Ile Phe Ala Asn Ile Ala Pro Thr Thr Val Asn Arg Ile Phe Val Ser
 50 55 60
 His Phe His Gly Asp His Cys Leu Gly Leu Gly Ser Met Leu Met Arg
 65 70 75 80
 Leu Asn Leu Asp Lys Val Ser His Pro Ile His Cys Tyr Tyr Pro Ala
 85 90 95
 Ser Gly Lys Lys Tyr Phe Asp Arg Leu Arg Tyr Gly Thr Ile Tyr His
 100 105 110
 Glu Thr Ile Gln Val Val Glu His Pro Ile Ser Glu Glu Gly Ile Val
 115 120 125

Glu Asp Phe Gly Ser Phe Arg Ile Glu Ala Gln Arg Leu Gln His Gln
 130 135 140
 Val Asp Thr Leu Gly Trp Arg Ile Thr Glu Pro Asp Thr Ile Lys Phe
 145 150 155 160
 Leu Pro Lys Glu Leu Glu Ser Arg Gly Ile Arg Gly Leu Ile Ile Gln
 165 170 175
 Asp Leu Ile Arg Asp Gln Glu Ile Ser Ile Gly Gly Ser Thr Val Tyr
 180 185 190
 Leu Ser Asp Val Ser Tyr Val Arg Lys Gly Asp Ser Ile Ala Ile Ile
 195 200 205
 Ala Asp Thr Leu Pro Cys Gln Ala Ala Ile Asp Leu Ala Lys Asn Ser
 210 215 220
 Cys Met Met Leu Cys Glu Ser Thr Tyr Leu Glu Gln His Arg His Leu
 225 230 235 240
 Ala Glu Ser His Phe His Met Thr Ala Lys Gln Ala Ala Thr Leu Ala
 245 250 255
 Lys Arg Ala Ala Thr Gln Lys Leu Ile Leu Thr His Phe Ser Ala Arg
 260 265 270
 Tyr Leu Asn Leu Asp Asp Phe Tyr Lys Glu Ala Ser Ala Val Phe Pro
 275 280 285
 Asn Val Ser Val Ala Gln Glu Tyr Arg Ser Tyr Pro Phe Pro Lys Asn
 290 295 300
 Pro Leu Leu Asn Lys
 305

<210> 28
 <211> 292
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0026

<400> 28
 Ser Asn Phe Ala Met Ser His Leu Ile Pro Ser Leu Arg Asn Ser Val
 1 5 10 15
 Thr Ser Tyr Phe His Lys Pro Gln Pro Ile Lys Gln Ala Ala Pro Ser
 20 25 30
 Lys Ser Ile Arg Asp Ile Cys Asn Ile Ala Tyr Leu Ile Ile Ile Cys
 35 40 45
 Val Leu Val Val Val Val Leu Val Gly Ala Met Leu Cys Met Phe Ile
 50 55 60
 Pro Ser Val Gly Ile Pro Leu Cys Leu Ser Ser Leu Ala Leu Leu Val
 65 70 75 80
 Leu Leu Ser Ile Phe Asn Pro Cys Leu Ile Asn Trp Ile Ser Thr Lys
 85 90 95
 Lys Thr Lys Glu Ile Ala Pro Lys Asp Ala Ser Glu Ser Gln Pro Thr
 100 105 110
 Lys Ser Ala Ser Arg Lys Gly Ser Pro Gln Leu Ser Pro His His Asp
 115 120 125
 His Glu Pro Lys Asn Phe Ile Arg Thr Gln Leu Glu Lys Gly Val Asn
 130 135 140
 Tyr Val Thr Asn Lys Phe Lys Ser Gly Glu Glu Ser Pro His Ile Ser
 145 150 155 160
 Asp Glu His His Ser Pro Arg Gln Ser Lys Arg Ser Ser Glu Ile Glu
 165 170 175
 Ser Ser Asp Glu Ser Ser Pro Glu Leu His Arg Lys Ala Lys Gly Lys
 180 185 190
 Ala Pro His Thr Ala Thr Thr Lys Glu Ser Lys Thr Ser Thr Thr Glu
 195 200 205

Ser Ser Lys Lys Lys Lys Lys Thr Lys His Ser Leu His Arg Thr Thr
 210 215 220
 Ser Ser Ile His Lys Arg Ser Ala Pro Lys Pro Met Val Pro Ser Lys
 225 230 235 240
 Lys Arg Lys Pro Val Leu Leu Lys Lys Thr Val Pro Leu Pro Ile Glu
 245 250 255
 Asp Leu Glu His Gln Ser Ser Gly Asn Glu Ser Ser Asp Ser Ser Ser
 260 265 270
 Pro Pro Pro Val Gln Arg Lys Ala Ile Leu Pro Trp Phe Cys Lys Gln
 275 280 285
 Pro Thr Asp Pro
 290

<210> 29
 <211> 825
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0027

<400> 29
 Pro Ser Ile Arg Thr Ile Val Asp Ser Thr Thr Asn Ser Asp Ser Pro
 1 5 10 15
 Ile Leu Asp Pro Asn Pro Glu Asp Val Glu Lys Leu Leu Asp Glu Ser
 20 25 30
 Glu Glu Glu Ser Glu Asp Gln Ser Thr Glu Arg Leu Leu Pro Ser Glu
 35 40 45
 Leu Phe Ile Leu Pro Leu Asn Lys Arg Pro Phe Phe Pro Gly Met Ala
 50 55 60
 Ala Pro Ile Leu Ile Glu Ser Gly Pro Tyr Tyr Glu Val Leu Lys Val
 65 70 75 80
 Leu Ala Lys Ser Ser Gln Lys Tyr Ile Gly Leu Val Leu Thr Lys Lys
 85 90 95
 Glu Asn Ala Asp Ile Leu Lys Val Ser Phe Asn Gln Leu His Lys Thr
 100 105 110
 Gly Val Ala Ala Arg Ile Leu Arg Ile Met Pro Ile Glu Gly Gly Ser
 115 120 125
 Ala Gln Val Leu Leu Ser Ile Glu Glu Arg Ile Arg Ile Ile Glu Pro
 130 135 140
 Ile Lys Asp Lys Tyr Leu Lys Ala Arg Val Ser Tyr His Ala Asp Asn
 145 150 155 160
 Lys Glu Leu Thr Glu Glu Leu Lys Ala Tyr Ser Ile Ser Ile Val Ser
 165 170 175
 Val Ile Lys Asp Leu Leu Lys Leu Asn Pro Leu Phe Lys Glu Glu Leu
 180 185 190
 Gln Ile Phe Leu Gly His Ser Asp Phe Thr Glu Pro Gly Lys Leu Ala
 195 200 205
 Asp Phe Ser Val Ala Leu Thr Thr Ala Thr Arg Glu Glu Leu Gln Glu
 210 215 220
 Val Leu Glu Thr Thr Asn Met His Asp Arg Ile Asp Lys Ala Leu Ile
 225 230 235 240
 Leu Leu Lys Lys Glu Leu Asp Leu Ser Arg Leu Gln Ser Ser Ile Asn
 245 250 255
 Gln Lys Ile Glu Ala Thr Ile Thr Lys Ser Gln Lys Glu Phe Phe Leu
 260 265 270
 Lys Glu Gln Leu Lys Thr Ile Lys Lys Glu Leu Gly Leu Glu Lys Glu
 275 280 285
 Asp Arg Ala Ile Asp Ile Glu Lys Phe Ser Glu Arg Leu Arg Lys Arg
 290 295 300

Ile Phe Pro Glu Asp Asn Arg Arg Asp Tyr Glu Glu Leu Pro Ala Tyr
785 790 795 800
Leu Lys Thr Gly Leu Lys Ile His Phe Val Ser His Tyr Asp Asp Val
805 810 815
Leu Lys Val Ala Phe Pro Lys Leu Lys
820 825

<210> 30
<211> 262
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0028

<400> 30
Arg Met Phe Leu Gln Phe Phe His Pro Ile Val Phe Ser Asp Gln Ser
1 5 10 15
Leu Ser Phe Leu Pro Tyr Leu Gly Lys Ser Ser Gly Ile Ile Glu Lys
20 25 30
Cys Ser Asn Ile Val Glu His Tyr Leu His Leu Gly Gly Asp Thr Ser
35 40 45
Val Ile Ile Thr Gly Val Ser Gly Ala Thr Phe Leu Ser Val Asp His
50 55 60
Ala Leu Pro Ile Ser Lys Ser Glu Lys Ile Ile Lys Ile Leu Ser Tyr
65 70 75 80
Ile Leu Ile Leu Pro Leu Ile Leu Ala Leu Phe Ile Lys Ile Val Leu
85 90 95
Arg Ile Ile Leu Phe Phe Lys Tyr Arg Gly Leu Ile Leu Asp Val Lys
100 105 110
Lys Glu Asp Leu Lys Lys Thr Leu Thr Pro Asp Gln Glu Asn Leu Ser
115 120 125
Leu Pro Leu Pro Ser Pro Thr Thr Leu Lys Lys Ile His Ala Leu His
130 135 140
Ile Leu Val Arg Ser Gly Lys Thr Tyr Asn Glu Leu Ile Gln Glu Gly
145 150 155 160
Phe Ser Phe Thr Lys Ile Thr Asp Leu Gly Gln Ala Pro Ser Pro Lys
165 170 175
Gln Asp Ile Gly Phe Ser Tyr Asn Ser Leu Leu Pro Asn Phe Tyr Phe
180 185 190
His Ser Leu Val Ser Val Pro Asn Ile Ser Gly Glu Glu Arg Ala Leu
195 200 205
Asn Tyr His Lys Glu Gln Gln Glu Glu Met Ala Val Lys Leu Lys Thr
210 215 220
Met Gln Ala Cys Ser Phe Val Phe Arg Ser Leu His Leu Pro Ser Met
225 230 235 240
Gln Thr Lys Asp Lys Lys Ala Gly Phe Gly Leu Leu Thr Phe Phe Pro
245 250 255
Trp Lys Ile Tyr Pro Leu
260

<210> 31
<211> 150
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0029

<400> 31
 Ser Asn Lys Asn Glu Arg Asn Glu Asn Ile Tyr Cys Phe Asn Leu Phe
 1 5 10 15
 Arg Tyr Ile Arg Phe Phe Ala Ala Leu Asn Ile Arg Met Asn Asp Gly
 20 25 30
 Leu Arg Phe Cys Tyr Ser Tyr Ile Leu Leu Arg Pro Met Leu Leu Asp
 35 40 45
 Ser Ser Leu Leu Arg Lys Gly Gly Gln Glu Leu Leu Lys Lys Phe Gln
 50 55 60
 Ile Lys Leu Arg Thr Thr Ser Ile Lys Ser Ser Leu Ile Ser Leu Arg
 65 70 75 80
 Gln Gln Leu Gly Lys Arg Glu Ala Thr Gln Ser Asp Ile Leu Tyr Gly
 85 90 95
 Thr Ser Arg Phe Gln Tyr Leu Asn Ser Phe Glu Ile Glu Asp Pro Arg
 100 105 110
 Ile Pro Pro Thr Met Ala Ala Gln Leu Gln Glu Ile Thr Trp Ser Arg
 115 120 125
 Ser Val Met Glu Leu Lys Ile Lys Phe Tyr Val Tyr Leu Asn Ser Glu
 130 135 140
 Arg Asn Lys Thr Lys Pro
 145 150

<210> 32
 <211> 230
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0030

<400> 32
 Leu Lys Gly Val Cys Trp Tyr Ser Leu Phe Phe Tyr Ile Lys Asn Arg
 1 5 10 15
 Arg Met Tyr Phe Tyr Lys Tyr Val Ile Asp Thr Ser Gly Tyr Tyr
 20 25 30
 Pro Phe Leu Ala Cys Val Asp Asn Gln Gln Val Leu Glu His Trp Ser
 35 40 45
 Leu Pro Val Gly Pro Asp Leu Gly Ile Val Leu Glu Phe Leu Phe Lys
 50 55 60
 Ser Lys Asn Leu Ser Phe Gln Gly Val Ala Val Ala Leu Gly Pro Gly
 65 70 75 80
 Asn Phe Ser Ala Thr Arg Ile Gly Ile Ser Phe Ala Gln Gly Leu Ala
 85 90 95
 Met Ala Lys Asn Val Pro Leu Leu Gly Tyr Ser Ser Leu Glu Gly Tyr
 100 105 110
 Leu Leu Ser Lys Asp Glu Lys Lys Ala Leu Met Leu Pro Leu Gly Lys
 115 120 125
 Arg Gly Gly Val Leu Thr Leu Ser Ser Glu Ile Pro Glu Glu Gly Leu
 130 135 140
 Asn Glu Lys Arg Arg Gly Val Gly Pro Gly Ala Leu Leu Ser Tyr Glu
 145 150 155 160
 Glu Ala Ser Asp Tyr Cys Val Ala His Gly Tyr Tyr His Val Ile Ser
 165 170 175
 Pro Asn Pro Gln Leu Phe Ala Ser Ser Phe Ser Asp Lys Ile Thr Val
 180 185 190
 Glu Glu Val Ala Pro Ser Val Glu Gln Ile Arg Arg His Val Ile Ser
 195 200 205
 Gln Phe Met Phe Val Glu Tyr Asp Lys Gln Leu Ser Pro Asp Tyr Arg
 210 215 220
 Ser Tyr Ser Cys Ile Phe
 225 230

<210> 33
 <211> 59
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0031

<400> 33
 Cys Met Pro Ser Val Lys Val Arg Val Gly Glu Pro Val Asp Arg Ala
 1 5 10 15
 Leu Arg Ile Leu Lys Lys Lys Ile Asp Lys Glu Gly Ile Leu Lys Ala
 20 25 30
 Ala Lys Ser His Arg Phe Tyr Asp Lys Pro Ser Val Lys Lys Arg Ala
 35 40 45
 Lys Ser Lys Ala Ala Ala Lys Tyr Arg Ser Arg
 50 55

<210> 34
 <211> 406
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0032

<400> 34
 Ser Leu Ile Gly Asn Val Val Phe Val Gly Ser Val Ser Gly Met Asp
 1 5 10 15
 Tyr Tyr Ser Ile Leu Gly Ile Ser Lys Thr Ala Ser Ala Glu Glu Ile
 20 25 30
 Lys Lys Ala Tyr Arg Lys Leu Ala Val Lys Tyr His Pro Asp Lys Asn
 35 40 45
 Pro Gly Asp Ala Ala Ala Glu Lys Arg Phe Lys Glu Val Ser Glu Ala
 50 55 60
 Tyr Glu Val Leu Ser Asp Pro Gln Lys Arg Asp Ser Tyr Asp Arg Phe
 65 70 75 80
 Gly Lys Asp Gly Pro Phe Ala Gly Ala Gly Gly Phe Gly Gly Ala Gly
 85 90 95
 Gly Met Gly Asn Met Glu Asp Ala Leu Arg Thr Phe Met Gly Ala Phe
 100 105 110
 Gly Gly Glu Phe Gly Gly Gly Ser Phe Phe Asp Gly Leu Phe Gly Gly
 115 120 125
 Leu Gly Glu Ala Phe Gly Met Arg Ser Asp Pro Ala Gly Ala Arg Gln
 130 135 140
 Gly Ala Ser Lys Lys Val His Ile Asn Leu Thr Phe Glu Glu Ala Ala
 145 150 155 160
 His Gly Val Glu Lys Glu Leu Val Val Ser Gly Tyr Lys Ser Cys Glu
 165 170 175
 Thr Cys Ser Gly Gln Gly Ala Val Asn Pro Gln Gly Ile Lys Ser Cys
 180 185 190
 Glu Arg Cys Lys Gly Ser Gly Gln Val Val Gln Ser Arg Gly Phe Phe
 195 200 205
 Ser Met Ala Ser Thr Cys Pro Glu Cys Gly Gly Glu Gly Arg Ile Ile
 210 215 220
 Thr Asp Pro Cys Ser Ser Cys Arg Gly Gln Gly Arg Val Lys Asp Lys
 225 230 235 240
 Arg Ser Val His Val His Ile Pro Ala Gly Val Asp Ser Gly Met Arg
 245 250 255
 Leu Lys Met Glu Gly Tyr Gly Asp Ala Gly Gln Asn Gly Ala Pro Ser
 260 265 270

Asp	Asn	Gln	Glu	Lys	Tyr	Arg	Ser	Ala	Leu	Asp	Leu	Lys	Leu	Ser	Met
		260						265					270		
Asp	Lys	Asp	Pro	Leu	Ile	Leu	Leu	Glu	Lys	Glu	Ala	Ile	Asn	Val	Phe
	275						280					285			
Gly	Leu	Ser	Pro	Phe	Glu	Ile	Glu	Glu	Ile	Lys	Ala	Glu	Ala	Gln	Glu
	290					295					300				
Glu	Val	Arg	Lys	Ser	Cys	Glu	Ile	Ala	Glu	Ala	Leu	Pro	Phe	Pro	Ser
305					310					315					320
Lys	Gly	Ser	Thr	Ser	His	Glu	Val	Phe	Ser	Pro	Tyr	Thr	Glu	Thr	Leu
			325						330					335	
Ile	Asp	Tyr	Glu	Asn	Ser	Glu	Ser	Ala	Gln	Asn	Leu	Arg	Asn	Ser	Glu
		340						345					350		
Pro	Lys	Val	Met	Arg	Asp	Ala	Ile	Ser	Glu	Ala	Leu	Val	Glu	Glu	Met
		355					360					365			
Thr	Arg	Asp	Ser	Gly	Val	Ile	Val	Phe	Gly	Glu	Asp	Val	Ala	Gly	Asp
	370					375					380				
Lys	Gly	Gly	Val	Phe	Gly	Val	Thr	Arg	Asn	Leu	Thr	Glu	Lys	Phe	Gly
385					390					395					400
Pro	Gln	Arg	Cys	Phe	Asn	Ser	Pro	Leu	Ala	Glu	Ala	Thr	Ile	Ile	Gly
			405						410					415	
Thr	Ala	Ile	Gly	Met	Ala	Leu	Asp	Gly	Ile	His	Lys	Pro	Val	Val	Glu
		420						425					430		
Ile	Gln	Phe	Ala	Asp	Tyr	Ile	Trp	Pro	Gly	Ile	Asn	Gln	Leu	Phe	Ser
	435						440					445			
Glu	Ala	Ser	Ser	Ile	Tyr	Tyr	Arg	Ser	Ala	Gly	Glu	Trp	Glu	Val	Pro
	450					455					460				
Leu	Val	Ile	Arg	Ala	Pro	Ser	Gly	Gly	Tyr	Ile	Gln	Gly	Gly	Pro	Tyr
465					470					475					480
His	Ser	Gln	Ser	Ile	Glu	Gly	Phe	Leu	Ala	His	Cys	Pro	Gly	Ile	Lys
			485						490					495	
Val	Ala	Tyr	Pro	Ser	Asn	Ala	Ala	Asp	Ala	Lys	Ala	Leu	Leu	Lys	Ala
		500						505					510		
Ala	Ile	Arg	Asp	Pro	Asn	Pro	Val	Val	Phe	Leu	Glu	His	Lys	Ala	Leu
	515						520						525		
Tyr	Gln	Arg	Arg	Ile	Phe	Ser	Ala	Cys	Pro	Val	Phe	Ser	His	Asp	Tyr
	530					535					540				
Val	Leu	Pro	Phe	Gly	Lys	Ala	Ala	Ile	Val	His	Pro	Gly	Lys	Asp	Leu
545					550					555					560
Thr	Ile	Val	Ser	Trp	Gly	Met	Pro	Leu	Val	Leu	Ser	Leu	Glu	Val	Ala
			565						570					575	
Gln	Glu	Leu	Ala	Ser	Arg	Gly	Ile	Ser	Ile	Glu	Val	Ile	Asp	Leu	Arg
		580						585					590		
Thr	Met	Val	Pro	Cys	Asp	Phe	Ala	Thr	Val	Leu	Lys	Ser	Leu	Glu	Lys
		595					600					605			
Thr	Gly	Arg	Leu	Leu	Val	Ile	His	Glu	Ala	Ser	Glu	Phe	Cys	Gly	Phe
	610					615					620				
Gly	Ser	Glu	Leu	Val	Ala	Thr	Met	Ser	Glu	Gln	Gly	Tyr	Ala	Tyr	Leu
625					630					635					640
Asp	Ala	Pro	Ile	Arg	Arg	Leu	Gly	Gly	Leu	His	Ala	Pro	Val	Pro	Tyr
			645						650					655	
Ser	Lys	Val	Leu	Glu	Asn	Glu	Val	Leu	Pro	His	Lys	Glu	Ser	Ile	Leu
		660						665					670		
Gln	Ala	Ala	Lys	Ser	Leu	Ala	Glu	Phe							
		675					680								

<210> 36
 <211> 429
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0034

<400> 36

Val	Asn	Phe	Leu	Leu	Pro	Thr	Thr	Cys	Arg	Gly	Ile	Leu	Met	Ala	Glu	
1				5					10					15		
Ile	Ser	Thr	Pro	Ser	Leu	Pro	Asp	Ser	Ser	Ile	Val	Ser	Gln	Lys	Thr	
			20					25					30			
Pro	Pro	Val	Pro	Asp	Pro	Asp	Ser	Ser	Pro	Asp	His	Ile	Pro	Thr	Ile	
		35					40					45				
Pro	Thr	Gln	Ala	Pro	Phe	Lys	Pro	Gln	Arg	Lys	Lys	Glu	Thr	Pro	Ser	
	50					55					60					
Ser	Ile	Val	Asn	Ala	Ile	Ala	Phe	Ala	Ile	Leu	Ala	Phe	Leu	Ser	Cys	
65					70					75					80	
Leu	Gly	Gly	Val	Phe	Ala	Ile	Cys	Leu	Gly	Cys	Ser	Leu	Glu	Ile	Thr	
				85					90					95		
Met	Pro	Leu	Phe	Ile	Leu	Thr	Ala	Val	Phe	Ile	Ala	Phe	Thr	Leu	Leu	
			100					105						110		
Tyr	Phe	Ile	His	Tyr	Leu	Glu	Lys	Pro	Lys	Ile	Pro	Glu	Pro	Leu	Pro	
		115					120					125				
Thr	Pro	Pro	Pro	Ser	Pro	Thr	Leu	Arg	Ala	Pro	Thr	Leu	Thr	Pro	Glu	
	130					135					140					
Ile	Pro	Ala	Pro	Ala	Pro	Gly	Ile	Pro	Leu	Pro	Pro	Thr	Leu	Pro	Lys	
145					150					155					160	
Val	Asp	Arg	Thr	Lys	Leu	Thr	Cys	Asn	Pro	Asp	Ile	His	Tyr	Pro	Ser	
				165					170					175		
Thr	Tyr	Asp	Pro	Lys	Ala	Cys	Phe	Ser	Leu	Leu	Lys	Gln	Leu	Phe	Ser	
		180						185					190			
Leu	Asp	Pro	Glu	Thr	Arg	Pro	Glu	Asp	Arg	Lys	Tyr	Ser	Asn	Lys	Leu	
	195						200					205				
Ala	Ser	Ile	Leu	Leu	Arg	Ser	Lys	Glu	Lys	Ser	Gly	Phe	Arg	Phe	His	
	210					215					220					
Cys	Phe	Lys	Gly	His	Phe	Ser	His	Asp	Lys	Ile	Leu	Asn	Lys	Lys	Ser	
225					230					235					240	
Gly	Ala	Val	Val	Ile	Ser	Ser	His	Ser	Ser	Met	Asp	Phe	Ser	Thr	Thr	
				245					250					255		
Leu	Gly	Arg	Ala	Phe	Ala	Val	Thr	Thr	Cys	Leu	Gln	Arg	Ser	Cys	Trp	
			260					265					270			
Glu	Lys	Ile	Lys	Asn	Asn	Ile	Pro	Thr	Pro	Glu	Lys	His	Leu	Pro	Ile	
	275						280					285				
Gly	Ser	Cys	Val	Ser	Gly	Pro	Trp	Asp	Val	Glu	Glu	Gly	Ala	Gln	Leu	
	290					295				300						
Tyr	Thr	Ser	His	Leu	Ile	Val	Ile	Asn	Pro	Pro	Thr	Leu	Glu	Thr	Leu	
305				310						315					320	
Ile	Lys	Glu	Lys	Met	Arg	Arg	Ala	Ile	Thr	Leu	Lys	Asp	Phe	Ser	Met	
				325					330					335		
Lys	Glu	Ala	Phe	Thr	Asn	Leu	Val	Leu	Ala	Tyr	Leu	Gln	Cys	Phe	Asp	
			340					345					350			
Ile	Cys	Ile	Glu	His	Asn	Leu	Glu	Ser	Val	Gln	Leu	Glu	Val	Phe	Gly	
		355					360					365				
Leu	Asn	Asn	Leu	Ser	Ala	Asp	Gln	Glu	Glu	Phe	Thr	Thr	Trp	Glu	Ser	
	370					375					380					
Cys	Cys	His	Leu	Ala	Leu	Leu	Glu	Ser	Val	Arg	Ile	Leu	Leu	Ala	Ser	
385					390					395					400	
Lys	Glu	Glu	Tyr	Ala	Leu	Ser	Asn	Val	Ser	Val	Asn	Ser	Ile	Ser	Gln	
				405					410					415		
Val	Pro	Leu	Gln	Thr	Ala	Cys	Arg	Ala	Leu	Phe	Leu	Asn				
			420					425								

<210> 37
 <211> 526
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0035

<400> 37
 Ala Arg Thr Thr Leu Glu Glu Asp Ala Gly Ser Ser Leu Lys Pro Leu
 1 5 10 15
 Pro Lys Thr Phe Pro Cys Ala Thr Ala Leu Tyr Ile Thr His Arg Arg
 20 25 30
 Glu Arg Lys Ser Glu His Gln Met Trp Asn Arg Cys Gln Val Phe Ser
 35 40 45
 Ser Phe Phe Phe Arg Tyr Pro Ile Ser Ser Trp Leu Ile Arg Leu Arg
 50 55 60
 Ala Ser Cys Glu Cys Phe Gln Gln Arg His Pro Ile Phe Leu Cys Gly
 65 70 75 80
 Leu Tyr Trp Leu Ala Gly Ile Thr Ser Arg Gly His Pro Glu Cys Ser
 85 90 95
 Ala Leu Ile Leu Ile Phe Leu Gly Met Phe Leu Pro Arg Asn Pro Lys
 100 105 110
 Gln Trp Leu Pro Leu Ala Ser Ala Trp Ile Ile Ser Leu Met Leu Thr
 115 120 125
 Pro Ala Pro Phe Leu His Asp Gly Pro Ile Ser Gly Thr Phe Val Ile
 130 135 140
 His His Ala Gly Gly Gln Gly Thr Tyr Tyr Gly Glu Ala Leu Cys Ile
 145 150 155 160
 Gln Thr Pro Cys Gly Lys Arg Ala His His Leu Ser Cys Gln Ile Leu
 165 170 175
 Ser Glu Ser Arg Leu Glu Leu Lys Lys Val Tyr Glu Leu Glu Gly Thr
 180 185 190
 Leu His His Thr Ser Gln Ile Val Phe Lys Ser Asn Ala Cys Tyr Lys
 195 200 205
 Glu Ile Pro Arg Ser Arg Phe Tyr Ile Met Lys Glu Lys Cys Arg Glu
 210 215 220
 Ser Ser Cys His Phe Leu Asn His Arg Phe Pro Ser Ser Glu Val Gly
 225 230 235 240
 Pro Phe Ala Ser Ser Leu Leu Leu Gly Thr Pro Leu Pro Gln Asn Leu
 245 250 255
 Arg Asp Leu Phe Arg Gln Lys Gly Leu Ser His Leu Phe Ala Ile Ser
 260 265 270
 Gly Trp His Phe Ser Leu Cys Ala Thr Thr Leu Trp Met Leu Cys Ala
 275 280 285
 Leu Leu Pro Leu Lys Ile Lys Lys Ile Leu Ser Phe Ile Val Leu Thr
 290 295 300
 Ser Leu Ala Cys Ile Phe Pro Met Ser Leu Ser Val Trp Arg Ser Trp
 305 310 315 320
 Ile Ser Val Thr Leu Leu Cys Phe Ser Trp Cys Phe Ser Gly Ser Cys
 325 330 335
 Ser Gly Leu Asn Arg Leu Gly Ala Gly Phe Ile Leu Cys Ser Ile Phe
 340 345 350
 Phe Ser Pro Phe Ser Pro Thr Phe Val Leu Ser Phe Leu Ala Thr Leu
 355 360 365
 Gly Ile Leu Leu Phe Phe Pro Lys Ile Phe Ser Phe Leu Tyr Thr Pro
 370 375 380
 Trp Thr Gln Phe Leu Ser Pro Phe Trp Leu Tyr Pro Ile Arg Tyr Leu
 385 390 395 400
 Ala Met Thr Leu Ala Ile Ser Leu Ser Ala Gln Leu Phe Ile Val Leu
 405 410 415

Pro Ile Met Gln Tyr Phe Gly Ser Leu Pro Leu Glu Gly Leu Leu Tyr
 420 425 430
 Asn Leu Ile Val Pro Phe Thr Ile Leu Pro Ile Ile Val Phe Leu Ile
 435 440 445
 Ala Thr Ile Ile Leu Pro Cys Cys Ser Pro Ile Thr Glu Ala Leu Ile
 450 455 460
 Gln Gly Phe Leu Ser His Pro Trp Leu His Asn Pro Asn Ile Leu Lys
 465 470 475 480
 Thr Leu Ser Phe Ala Pro Val Pro Pro Trp Met Leu Thr Leu Ala Ser
 485 490 495
 Leu Ile Leu Phe Phe Ile Gly Ile Leu Arg Thr Asn Val Ser Pro Tyr
 500 505 510
 Ala Ser Ile Ser Ala Thr Ser Tyr Arg Phe Ile Glu Thr Leu
 515 520 525

<210> 38
 <211> 276
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0036

 <400> 38
 Ala Lys Ser Leu Trp Asp Ser Glu Arg Lys Lys Met Lys Lys Pro Asp
 1 5 10 15
 Asn Asp Ser Thr Phe Asp Val Arg Ser Phe Phe Pro Phe Asp Val Leu
 20 25 30
 Cys Ile Glu Gln Leu Arg Lys Glu Met Ser Trp Glu Val Val Ser Ala
 35 40 45
 Lys Ile Pro Arg Leu Pro Arg Gly Trp Tyr Glu Leu Met Gly Leu Ser
 50 55 60
 Lys Glu Asp Arg Ile Asp Phe Cys Leu Asp Phe Trp Cys Ser Val Leu
 65 70 75 80
 Gly Ile Glu His Lys Glu Ser Pro Ser Ile Cys Arg Phe Phe Ser Leu
 85 90 95
 Leu Glu Thr Ile Glu Val Tyr Ile Tyr Arg Leu Glu Lys Glu Pro Tyr
 100 105 110
 Gln Leu Lys Met Phe Tyr Val Phe Arg Asp Gly Arg Cys Gly Phe Gln
 115 120 125
 Gly Glu Pro Pro Leu Leu Asp Phe Leu Gly His His Arg Leu Pro Pro
 130 135 140
 Leu Gly Asp Arg His Tyr Glu Lys Phe Phe Ser Ile His Asn Gly Phe
 145 150 155 160
 Gly Lys Trp Glu Asp Glu Gly Ile Phe Pro Met Arg Ser Leu Ala Lys
 165 170 175
 Val Gln Gln Lys Leu Arg Gln Gln Leu Val Val Met Asn Lys Met Gln
 180 185 190
 Ala Glu Asp Asn Cys Tyr Ser Leu Gly Ile Phe Pro Phe Tyr Gly Tyr
 195 200 205
 Glu Glu Pro Phe Ala Tyr Gln Ser Phe Phe Phe Asp Pro Glu Ile Arg
 210 215 220
 Arg Asp Leu Pro Ser Pro Asn Val Leu Leu Asn Glu Glu Ser Leu Glu
 225 230 235 240
 His Arg Ser Leu Glu Thr Ile Glu Leu Leu His Leu Ser Lys Ser Tyr
 245 250 255
 Tyr Pro Ser Phe Leu Ser Trp Leu Glu Asn Tyr Leu His Ser Glu Glu
 260 265 270
 Val Tyr Asn Glu
 275

<210> 39
 <211> 138
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0037

<400> 39
 Lys Leu Leu Ser Cys Cys Ile Cys Leu Arg Ala Ile Ile Leu Leu Ser
 1 5 10 15
 Ser Arg Gly Trp Arg Thr Ile Tyr Ile Val Arg Arg Cys Ile Met Asn
 20 25 30
 Glu Pro Thr Arg Thr Tyr Leu Glu Ser Glu Lys Asp Thr Gln Asp Gln
 35 40 45
 Ile Glu Glu Leu Gln Ala Thr Cys Ile Val Lys Asn Ala Ala Gly Ile
 50 55 60
 His Val Arg Pro Ala Gly Val Ile Val Arg Leu Phe Asp Gly Glu Pro
 65 70 75 80
 Cys Asp Val His Phe Thr Tyr Ala Gly Lys Thr Ile Asn Ala Lys Ser
 85 90 95
 Ile Met Ser Ile Leu Met Leu Gly Ala Pro Gln Gly Gly Glu Ile Leu
 100 105 110
 Val Thr Ile Arg Ser Lys Glu Ala His Arg Ile Leu Gln Lys Ile Gln
 115 120 125
 Asp Ala Phe Ser Ser Gly Phe Gly Glu Leu
 130 135

<210> 40
 <211> 571
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0038

<400> 40
 Met Asp Thr Gln Ser Ser Thr Gly Asn Glu Glu Trp Arg Ile Ala Gly
 1 5 10 15
 Thr Ser Ile Val Ser Gly Met Ala Leu Gly Lys Val Phe Phe Leu Gly
 20 25 30
 Thr Ser Pro Leu His Val Arg Glu Leu Thr Leu Pro Gln Glu Glu Val
 35 40 45
 Glu His Glu Ile His Arg Tyr Tyr Lys Ala Leu Asn Arg Ser Lys Ser
 50 55 60
 Asp Ile Val Ala Leu Glu Gln Glu Val Thr Gly Gln Gln Gly Leu Gln
 65 70 75 80
 Glu Val Ser Ser Ile Leu Gln Ala His Leu Glu Ile Met Lys Asp Pro
 85 90 95
 Leu Leu Thr Glu Glu Val Val Asn Thr Ile Arg Lys Asp Arg Lys Asn
 100 105 110
 Ala Glu Tyr Val Phe Ser Ser Val Met Gly Lys Ile Glu Glu Ser Leu
 115 120 125
 Thr Ala Val Arg Gly Met Pro Ser Val Val Asp Arg Val Gln Asp Ile
 130 135 140
 His Asp Ile Ser Asn Arg Val Ile Gly His Leu Cys Cys Gln His Lys
 145 150 155 160
 Ser Ser Leu Gly Glu Ser Asp Gln Asn Leu Ile Ile Phe Ser Glu Glu
 165 170 175
 Leu Thr Pro Ser Glu Val Ala Ser Ala Asn Ser Ala Tyr Ile Arg Gly
 180 185 190

Phe Val Ser Leu Val Gly Ala Ala Thr Ser His Thr Ala Ile Val Ser
195 200 205
Arg Ala Lys Ser Ile Pro Tyr Leu Ala Asn Ile Ser Glu Glu Leu Trp
210 215 220
Asn Ile Ala Lys Arg Tyr Asn Gly Lys Leu Val Leu Ile Asp Gly Tyr
225 230 235 240
Arg Gly Glu Leu Ile Phe Asn Pro Lys Pro Ala Thr Leu Gln Ser Cys
245 250 255
Tyr Lys Lys Glu Leu Ser Val Val Ala His Thr Ser Gln Arg Leu Val
260 265 270
Arg Lys Ser Leu His Pro Ile Val Ser Ser His Ala Gly Ser Asp Lys
275 280 285
Asp Val Glu Asp Leu Leu Glu Asn Phe Pro Gln Thr Ser Ile Gly Leu
290 295 300
Phe Arg Ser Glu Phe Leu Ala Val Ile Leu Gly Arg Leu Pro Thr Leu
305 310 315 320
Arg Glu Gln Val Asp Leu Tyr Glu Lys Leu Ala Arg Phe Pro Gly Asp
325 330 335
Ser Pro Ser Val Leu Arg Leu Phe Asp Phe Gly Glu Asp Lys Pro Cys
340 345 350
Pro Gly Ile Lys Asn Lys Lys Glu Arg Ser Ile Arg Trp Leu Leu Asp
355 360 365
Tyr Ser Val Ile Leu Glu Asp Gln Leu Gln Ala Ile Ala Lys Ala Ser
370 375 380
Leu Gln Gly Ser Ile Lys Val Leu Ile Pro Gly Val Ser Asp Val Ser
385 390 395 400
Glu Ile Ile Glu Val Lys Lys Lys Trp Glu Thr Ile Arg Thr Arg Phe
405 410 415
Pro Lys Gly His Lys Val Ser Trp Gly Thr Met Ile Glu Phe Pro Ser
420 425 430
Ala Val Trp Met Ile Glu Glu Ile Leu Pro Glu Cys Asp Phe Leu Ser
435 440 445
Ile Gly Thr Asn Asp Leu Val Gln Tyr Thr Leu Gly Ile Ser Arg Glu
450 455 460
Ser Ala Leu Pro Lys His Leu Asn Val Thr Leu Pro Pro Ala Val Ile
465 470 475 480
Arg Met Ile His His Val Leu Gln Ala Ala Lys Gln Asn Gln Val Pro
485 490 495
Val Ser Ile Cys Gly Glu Ala Ala Gly Gln Leu Ser Leu Thr Pro Leu
500 505 510
Phe Ile Gly Leu Gly Val Gln Glu Leu Ser Val Ala Met Pro Val Ile
515 520 525
Asn Arg Leu Arg Asn His Ile Ala Leu Leu Glu Leu Asn Ser Cys Leu
530 535 540
Glu Ile Thr Glu Ala Leu Leu Gln Ala Lys Thr Cys Ser Glu Val Glu
545 550 555 560
Glu Leu Leu Asn Arg Asn Asn Lys Ile Thr Ser
565 570

<210> 41
<211> 98
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0039

<400> 41
Ile Ser Met Gly Ser Gly Tyr Ala Lys Lys Lys Lys Glu Ala Lys Ile
1 5 10 15

Met	Glu	Gln	Gln	Phe	Leu	Glu	Met	Glu	Ala	Ser	Leu	Leu	Glu	Lys	Arg
		20						25					30		
Tyr	Glu	Gly	Gln	Ala	Gly	Asn	Gly	Leu	Val	Ser	Val	Val	Ile	Asn	Gly
		35					40					45			
Lys	Cys	Asp	Leu	Ile	Ser	Val	Lys	Val	Gln	Pro	Thr	Cys	Leu	Asp	Pro
	50					55					60				
Glu	Asp	Pro	Glu	Val	Ile	Glu	Asp	Leu	Phe	Arg	Ala	Ala	Phe	Lys	Leu
65					70					75					80
Ala	Lys	Glu	Gln	Met	Asp	Gln	Glu	Met	Ser	Leu	Met	Arg	Ser	Thr	Met
			85						90					95	
Pro	Phe														

<210> 42
 <211> 452
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0040

Ala	Phe	Tyr	Thr	His	Ser	Leu	Gly	Tyr	Thr	Met	Thr	Leu	Gln	Pro	Tyr
1				5					10					15	
Gln	Ala	Ser	Ser	Arg	Lys	Tyr	Arg	Pro	Gln	Ile	Phe	Arg	Glu	Ile	Leu
			20					25					30		
Gly	Gln	Ser	Ser	Val	Val	Ala	Val	Leu	Lys	Asn	Ala	Leu	Val	Phe	Asn
		35					40					45			
Arg	Ala	Ala	His	Ala	Tyr	Leu	Phe	Ser	Gly	Ile	Arg	Gly	Thr	Gly	Lys
	50					55					60				
Thr	Thr	Leu	Ala	Arg	Ile	Leu	Ala	Lys	Ala	Leu	Asn	Cys	Val	His	Leu
65				70						75					80
Ser	Glu	Asp	Gly	Glu	Pro	Cys	Asn	Gln	Cys	Phe	Ser	Cys	Lys	Glu	Ile
			85						90					95	
Ala	Ser	Gly	Ser	Ser	Leu	Asp	Val	Leu	Glu	Ile	Asp	Gly	Ala	Ser	His
			100					105					110		
Arg	Gly	Ile	Glu	Asp	Ile	Arg	Gln	Ile	Asn	Glu	Thr	Val	Leu	Phe	Thr
	115						120					125			
Pro	Val	Lys	Ala	Lys	Phe	Lys	Ile	Tyr	Ile	Ile	Asp	Glu	Val	His	Met
	130					135					140				
Leu	Thr	Lys	Glu	Ala	Phe	Asn	Ala	Leu	Leu	Lys	Thr	Leu	Glu	Glu	Pro
145				150						155					160
Pro	Gln	His	Val	Lys	Phe	Phe	Phe	Ala	Thr	Thr	Glu	Ile	His	Lys	Ile
			165						170					175	
Pro	Gly	Thr	Ile	Leu	Ser	Arg	Cys	Gln	Lys	Met	His	Leu	Gln	Arg	Ile
		180						185					190		
Pro	Glu	Lys	Thr	Ile	Leu	Glu	Lys	Leu	Ser	Leu	Met	Ala	Gln	Asp	Asp
	195						200					205			
His	Ile	Glu	Ala	Ser	Gln	Glu	Ala	Leu	Ala	Pro	Ile	Ala	Arg	Ala	Ala
	210					215					220				
Gln	Gly	Ser	Leu	Arg	Asp	Ala	Glu	Ser	Leu	Tyr	Asp	Tyr	Val	Ile	Ser
225				230						235					240
Leu	Phe	Pro	Lys	Ser	Leu	Ser	Pro	Asp	Thr	Val	Ala	Gln	Ala	Leu	Gly
			245						250					255	
Phe	Ala	Ser	Gln	Asp	Ser	Leu	Arg	Thr	Leu	Asp	Asn	Ala	Ile	Leu	Gln
	260							265					270		
Arg	Asp	Tyr	Ala	Thr	Ala	Leu	Gly	Ile	Val	Thr	Asp	Phe	Leu	Asn	Ser
	275						280					285			
Gly	Val	Ala	Pro	Val	Thr	Phe	Leu	His	Asp	Leu	Thr	Leu	Phe	Tyr	Arg
	290					295					300				

Asn Leu Leu Leu Thr Asn Ser Thr Thr Ser Lys Phe Ser Ser Gln Tyr
 305 310 315 320
 Lys Thr Glu Gln Leu Leu Glu Ile Ile Asp Phe Leu Gly Glu Ser Ala
 325 330 335
 Lys His Leu Gln Asn Thr Ile Phe Glu Gln Thr Phe Leu Glu Thr Val
 340 345 350
 Ile Ile His Ile Ile Arg Ile Tyr Gln Arg Pro Val Leu Ser Glu Leu
 355 360 365
 Ile Ser Ser Ile Lys Ser Arg Gln Phe Glu Gly Leu Arg Asn Ile Lys
 370 375 380
 Glu Pro Thr Leu Thr Gln Gln Val Ser Ala Pro Gln Pro Gln Pro Thr
 385 390 395 400
 Tyr Lys Glu Gln Ser Phe Leu Glu Lys Lys Asn Gln Pro Ala Ala Glu
 405 410 415
 Gly Lys Ile Ile Ser Val Glu Val Lys Ser Ser Ala Ser Ile Lys Ser
 420 425 430
 Ala Ala Val Asp Thr Leu Leu Gln Phe Ala Val Val Glu Phe Ser Gly
 435 440 445
 Ile Leu Arg Gln
 450

<210> 43
 <211> 485
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0041

<400> 43
 Cys Lys Tyr Leu Tyr His His Ser Tyr Pro Pro Pro Gln His Ser Val
 1 5 10 15
 Gly Ser Ile Ser Ser Arg Tyr Lys Leu Arg Val Leu Ala Ile Thr Phe
 20 25 30
 Leu Val Leu Gly Val Leu Leu Leu Ile Ser Gly Ala Leu Phe Leu Thr
 35 40 45
 Leu Gly Ile Pro Gly Leu Thr Ala Gly Val Ser Phe Gly Leu Gly Ile
 50 55 60
 Gly Leu Ser Ala Leu Gly Gly Val Leu Val Val Ser Gly Leu Leu Cys
 65 70 75 80
 Leu Leu Val Lys Arg Glu Val Ser Lys Val Cys Pro Glu Glu Ile Pro
 85 90 95
 Ala Val Gln Pro Glu Glu Thr Pro Glu Gly Val Pro Val Thr Pro Phe
 100 105 110
 Glu Lys Pro Ala Leu Asp Glu Ala Gln Lys Glu Gln Lys Thr Gln Lys
 115 120 125
 Ile Leu Asp Gln Leu Pro Gln Glu Leu Asp Gln Leu Asp Arg Tyr Ile
 130 135 140
 Gln Glu Ala Phe Ala Cys Leu Gly Pro Leu Lys Asp Leu Lys Tyr Glu
 145 150 155 160
 Asp Gln Gly Phe Leu Gln Asp Val Lys Glu Glu Phe Gln Val Phe Asp
 165 170 175
 Phe Val Gln Lys Asp Met Ile Ala Glu Phe Val Glu Leu Gln Gln Ile
 180 185 190
 Leu Cys Gln Glu Gly Arg Leu Leu Glu Phe Val Ile Asn Gln Thr Arg
 195 200 205
 Tyr Ile Gly Arg Asp Leu Phe Lys Arg Glu Asp Ser Leu Tyr Lys Leu
 210 215 220
 Trp Glu Trp Leu Gly Tyr Leu Pro Ser Gly Asp Val Arg Gly Glu Arg
 225 230 235 240

Leu Lys Lys Ser Ala Arg Glu Val Val Asp Arg Phe Met Arg Thr Thr
 245 250 255
 Cys Asn Ile Arg Lys Ile Ala Met Thr Phe Asp Arg His Val Tyr Ser
 260 265 270
 Val Ala Lys Thr Ala Phe Glu Lys Ala Phe Gly Ala Leu Glu Thr Cys
 275 280 285
 Val Tyr Glu Ser Met Arg Glu Ser Tyr Arg Glu Ala Phe Cys Glu Tyr
 290 295 300
 Glu Lys Ala Lys Leu Leu Gly Asp Glu Glu Lys Ser Ala His Ala Glu
 305 310 315 320
 Gln Arg Phe Gln Asp Ile Lys Asn Arg Trp Glu Asp Val Lys Asp Ala
 325 330 335
 Phe Phe Trp Val Lys Glu Asp Gly Lys Ile Glu Ile Asp Asp Ala Ile
 340 345 350
 Gly Asn Ser Cys Lys Trp Ser Glu Arg Tyr Glu Glu His Arg Ile Thr
 355 360 365
 Arg Ala Arg Trp Tyr Lys Val Ala Glu His Gln Leu Phe Asn Ala Thr
 370 375 380
 Met Arg Val Lys Asp Ser Leu Arg Glu His Asn Glu Ala Arg Val Ala
 385 390 395 400
 Phe Glu Lys Glu Arg Ser Lys Glu Asn Gln Arg Gln Val Gln Lys Lys
 405 410 415
 Lys Glu Lys Arg Leu Arg Asp Leu Lys Glu Leu His Asp Gln Glu Leu
 420 425 430
 Pro Arg Ala Gln Glu Arg Leu Arg Glu Leu Gln Ala Leu Tyr Pro Glu
 435 440 445
 Ile Ala Val Ser Val Val Glu Ala Arg Arg Glu Val Ala Ser Asp Leu
 450 455 460
 Glu Lys Ala His Glu Ser Ile Asp Lys His Tyr Gln Ser Cys Val Arg
 465 470 475 480
 Glu Gln Glu Leu Tyr
 485

<210> 44
 <211> 279
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0042

<400> 44
 Glu Glu Glu Glu Lys Gln Glu Ala Glu Phe Arg Glu Asn Gly Thr Lys
 1 5 10 15
 Ile Arg Ser Met Glu Glu Val Ser Glu Tyr Leu Gln Gln Val Glu Asn
 20 25 30
 Gln Leu Glu Ser Cys Ser Lys Arg Leu Thr Lys Met Glu Thr Phe Ala
 35 40 45
 Leu Gly Val Arg Leu Glu Ala Lys Glu Glu Ile Glu Ser Ile Ile Leu
 50 55 60
 Ser Asp Val Val Asn Arg Phe Glu Val Leu Cys Arg Asp Ile Glu Asp
 65 70 75 80
 Met Leu Ser Arg Val Glu Glu Ile Glu Arg Met Leu Arg Met Ala Glu
 85 90 95
 Leu Pro Leu Leu Pro Ile Lys Glu Ala Leu Thr Lys Ala Phe Val Gln
 100 105 110
 His Asn Ser Cys Lys Glu Lys Leu Thr Lys Val Glu Pro Tyr Phe Lys
 115 120 125
 Glu Ser Pro Ala Tyr Leu Thr Ser Glu Glu Arg Leu Gln Ser Leu Asn
 130 135 140

Gln Thr Leu Gln Arg Ala Tyr Lys Glu Ser Gln Lys Val Ser Gly Leu
 145 150 155 160
 Glu Ser Glu Val Arg Ala Cys Arg Glu Gln Leu Lys Asp Gln Val Arg
 165 170 175
 Gln Phe Glu Thr Gln Gly Val Ser Leu Ile Lys Glu Glu Ile Leu Phe
 180 185 190
 Val Thr Ser Thr Phe Arg Thr Lys Phe Ser Tyr His Ser Phe Arg Leu
 195 200 205
 His Val Pro Cys Met Arg Leu Tyr Glu Glu Tyr Tyr Asp Asp Ile Asp
 210 215 220
 Leu Glu Arg Thr Arg Ala Arg Trp Met Ala Met Ser Glu Arg Tyr Arg
 225 230 235 240
 Asp Ala Phe Gln Ala Phe Gln Glu Met Leu Lys Glu Gly Leu Val Glu
 245 250 255
 Glu Ala Gln Ala Leu Arg Glu Thr Glu Tyr Trp Leu Tyr Arg Glu Glu
 260 265 270
 Arg Lys Ser Lys Lys Lys His
 275

<210> 45
 <211> 647
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0043

<400> 45
 His His Arg Phe Ile Met Gln Val Pro Leu Ser Pro Gln Leu Pro Pro
 1 5 10 15
 Pro Pro Pro Asp His Ser Val Gly Ala Ser Phe Cys Leu Ser Lys Phe
 20 25 30
 Arg Val Leu Ala Ile Thr Phe Leu Val Leu Gly Val Leu Leu Ile
 35 40 45
 Ser Gly Ala Leu Phe Leu Thr Leu Gly Ile Ser Gly Val Ser Leu Gly
 50 55 60
 Val Gly Leu Gly Leu Ser Ala Leu Gly Ser Val Leu Val Ile Ser Gly
 65 70 75 80
 Phe Leu Leu Leu Leu Glu Arg Arg Glu Val Ser Gly Val Gly Leu Glu
 85 90 95
 Gly Ile Pro Thr Gly Ile Pro Val Gly Pro Ser Ala Glu Pro Ser Ser
 100 105 110
 Glu Glu Ile Gln Lys Lys Gln Lys Ala Lys Gln Ile Leu Asp Gln Leu
 115 120 125
 Pro Gln Glu Leu Asp Gln Leu Asp Thr Asp Ile Gln His Val Leu Ser
 130 135 140
 Cys Leu Gly Lys Leu Lys Asp Leu Lys Cys Lys Asp Arg Gly Leu Leu
 145 150 155 160
 Lys Asp Ala Lys Glu Lys Leu Gln Val Phe Asp Phe Val Trp Lys Asp
 165 170 175
 Met Met Met Glu Phe Val Glu Leu Gln Gln Val Met Asp Gln Glu Ser
 180 185 190
 Arg Tyr Leu Glu Gly Leu Ile His Glu Val Gln Ser Ile Ala His Lys
 195 200 205
 Leu Phe Val Asp Asp Val Asn Ile Arg Ser His Leu Gly Glu Ser Cys
 210 215 220
 Gly Tyr Leu Pro Ser Glu Asp Val Arg Gly Glu Leu Leu Lys Arg Phe
 225 230 235 240
 Ala Lys Glu Val Val Ala Arg Phe Met Lys Val Thr Arg Asp Ile Arg
 245 250 255

Lys Ile Ala Met Ala Phe Asn Lys Asn Ala Tyr Gly Ala Ala Lys Asn
 260 265 270
 Ala Phe Asp Lys Ala Phe Gly Ser Leu Glu Thr Cys Leu Tyr Lys Ser
 275 280 285
 Leu Thr Lys Ser Tyr Arg Asp Thr Phe Cys Asp Tyr Lys Arg Ala Lys
 290 295 300
 Ile Leu Pro Asp Glu Asn Asn Ser Ala Arg Ala Glu Gln Arg Phe Arg
 305 310 315 320
 Glu Val Lys Asp His Trp Glu Asp Leu Lys Glu Thr Val Phe Trp Val
 325 330 335
 Lys Glu Asp Gly Arg Ile Asp Ile Glu Val Leu Thr Ala Val Gly Gly
 340 345 350
 Trp Pro Asp Arg Tyr Pro Glu His Leu Ile Leu Glu Lys Arg Lys Asp
 355 360 365
 Lys Val Met Ser His Gln Leu Trp Glu Ala Thr Met Arg Val Lys Glu
 370 375 380
 Ala Glu Val Thr Tyr Ser Val Ala Arg Val Ala Phe Glu Lys Asp Gly
 385 390 395 400
 Ser Gln Gln Asn Gln Lys Lys Phe Gln Glu Lys Thr Lys Glu Arg Leu
 405 410 415
 Arg Cys Leu Lys Asp Leu Arg Asp Gln Glu Cys His Arg Ala Gln Glu
 420 425 430
 Arg Leu Glu Lys Leu Thr Ala Leu Tyr Pro Glu Val Ser Val Ser Val
 435 440 445
 Val Glu Thr Glu Arg Glu Arg Lys Phe Asn Leu Glu Lys Ala Tyr Gly
 450 455 460
 Asn Leu Glu Glu Arg Tyr Gln Ser Val Val Gln Asp Gln Glu Asp Tyr
 465 470 475 480
 Trp Thr Glu Gln Lys Asn Arg Glu Ala Glu Phe Arg Ala Lys Gly Thr
 485 490 495
 Lys Val Arg Ser Met Glu Glu Val Ala Glu His Leu Gln Ile Leu Glu
 500 505 510
 Asn Leu Leu Glu Asp Cys Tyr Lys Arg Leu Ser Lys Ala Glu Thr Phe
 515 520 525
 Ala Leu Gly Val Glu Arg Glu Ala Thr Glu Glu Ile Glu Tyr Thr Ile
 530 535 540
 Leu Ser Asp Ala Ala Asn Arg Leu Lys Val Leu Cys Glu Asp Ile Glu
 545 550 555 560
 Asp Thr Leu Pro Arg Val Glu Glu Ile Glu Met Met Leu Arg Met Ala
 565 570 575
 Glu Arg Pro Leu His Pro Ile Lys Gln Ala Phe Thr Lys Ala Phe Val
 580 585 590
 Gln Tyr Asn Arg Cys Lys Glu Arg Leu Ala Lys Val Glu Pro Tyr Tyr
 595 600 605
 Lys Glu Ser Pro Ala Tyr Val Asn Ser Glu Glu Arg Leu Gln Ser Leu
 610 615 620
 Asp Gln Ala Ser Gln Cys Ile Gln Arg Val Pro Lys Gly Phe Lys Phe
 625 630 635 640
 Arg Asn Gly Ser Met Tyr Ile
 645

<210> 46
 <211> 167
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0044

<400> 46

Ile	Ala	Lys	Ser	Asp	Cys	Arg	Val	Trp	Ile	Arg	Leu	His	Ser	Ala	Tyr
1				5					10					15	
Lys	Glu	Ser	Gln	Lys	Val	Ser	Ser	Leu	Glu	Thr	Glu	Ala	Cys	Thr	Tyr
			20					25					30		
Arg	Glu	Tyr	Leu	Arg	Glu	Gln	Val	Gln	Gln	Phe	Glu	Thr	Gln	Gly	Val
			35				40					45			
Ser	Leu	Ile	Lys	Glu	Glu	Leu	Leu	Phe	Leu	Ser	Ser	Thr	Leu	Lys	Ser
	50					55					60				
Lys	Leu	Ser	Tyr	Asp	Pro	Leu	Ile	Ala	Asn	Ile	Pro	Cys	Met	Lys	Phe
65					70				75						80
Tyr	Tyr	Gln	Tyr	Tyr	Asp	Asp	Ile	Asp	Lys	Ala	Arg	Ala	Gln	Ser	Arg
				85				90					95		
Trp	Leu	Glu	Lys	Ser	Glu	Arg	Tyr	Arg	Asn	Ala	Lys	Arg	Arg	Phe	Gln
			100					105					110		
Glu	Ile	Val	Lys	Lys	Gly	Leu	Phe	Lys	Glu	Ala	Lys	Pro	Leu	Lys	Lys
		115				120						125			
Glu	Glu	Tyr	Arg	Leu	Leu	Gln	Glu	Glu	Arg	Ser	Asn	Lys	Glu	Lys	Arg
	130					135					140				
Leu	Ile	Tyr	Asn	Lys	Met	Ala	Val	Ala	Arg	Gln	Arg	Val	Gln	Glu	Phe
145					150				155						160
Glu	Ser	Met	Glu	Ile	Pro	Glu									
					165										

<210> 47
 <211> 610
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0045

<400> 47

Cys	Lys	Tyr	Thr	Tyr	His	Pro	Pro	Gln	Leu	Pro	Pro	Asp	His	Ser	Val
1				5					10					15	
Gly	Ala	Thr	Ser	Trp	Gln	Pro	Lys	Leu	Arg	Ile	Leu	Thr	Ile	Thr	Phe
			20					25					30		
Leu	Val	Leu	Gly	Val	Leu	Leu	Leu	Ile	Ser	Gly	Ala	Leu	Phe	Leu	Thr
		35					40					45			
Leu	Gly	Val	Pro	Gly	Leu	Ala	Gly	Leu	Ser	Phe	Gly	Leu	Gly	Ile	
	50					55				60					
Gly	Leu	Ser	Ala	Leu	Gly	Gly	Val	Leu	Val	Val	Ser	Gly	Leu	Leu	Phe
65					70				75						80
Phe	Leu	Ile	Arg	Arg	Gly	Val	Ser	Lys	Val	Arg	Pro	Glu	Glu	Ile	Pro
			85					90					95		
Val	Thr	Pro	Ser	His	Glu	Ala	Gln	Lys	Ile	Leu	Cys	Gln	Leu	Pro	Gln
			100					105					110		
Glu	Leu	Asp	Gln	Leu	Asp	Thr	Ser	Ile	Gln	Glu	Val	Val	Ser	Cys	Leu
		115					120					125			
Gly	Lys	Leu	Lys	Asp	Leu	Lys	Tyr	Glu	Asp	Gln	Gly	Leu	Leu	Thr	Glu
	130					135					140				
Val	Gln	Glu	Lys	Leu	Arg	Val	Phe	Asp	Phe	Val	Arg	Lys	Asp	Met	Val
145					150				155						160
Thr	Glu	Phe	Leu	Glu	Leu	Gln	Gln	Val	Val	Ala	Gln	Glu	Gly	Gln	Phe
			165					170					175		
Leu	Asp	Tyr	Leu	Ile	Asn	Gln	Val	Gln	Ser	Ile	Ser	His	Lys	Leu	Phe
			180					185					190		
Val	Pro	Asp	Val	Asn	Ile	Gly	Ala	His	Leu	Ala	Glu	Leu	Cys	Gly	Tyr
		195					200					205			
Leu	Pro	Ser	Gly	Asp	Val	Arg	Val	Glu	Arg	Leu	Lys	Arg	Ser	Ala	Arg
	210					215					220				

Gln Val Val Asp Arg Phe Met Arg Val Thr Cys Asp Thr Arg Lys Val
 225 230 235 240
 Ala Met Ala Phe Asp Glu Asn Ala Cys Gly Val Ala Lys Asn Ala Phe
 245 250 255
 Asp Lys Ala Phe Gly Ala Leu Glu Glu Cys Val Tyr Lys Ser Leu Thr
 260 265 270
 Glu Ser Tyr Arg Glu Ala Phe Tyr Glu Tyr Glu Lys Ala Lys Ile Leu
 275 280 285
 Arg Asn Glu Asp Val Glu Trp Leu Gln Asp Lys Asn Lys Ser Ala Arg
 290 295 300
 Ala Glu Gln Arg Phe Arg Glu Val Lys Asp Arg Trp Glu Asp Leu Lys
 305 310 315 320
 Glu Thr Val Phe Trp Val Lys Glu Asn Gly Cys Ile Asp Leu Glu Val
 325 330 335
 Leu Thr Ala Val Gly Gly Trp Pro Asp Arg Gly Pro Glu His Leu Ile
 340 345 350
 Pro Glu Lys Arg Arg Asn Lys Val Met Ser His Lys Leu Trp Glu Ala
 355 360 365
 Thr Met Arg Met Lys Gly Ala Glu Gly Thr Tyr Ser Val Ala Arg Val
 370 375 380
 Ala Phe Glu Lys Asp Gly Ser Arg Lys Asn Gln Lys Lys Phe Gln Glu
 385 390 395 400
 Lys Thr Lys Glu Trp Leu Arg Cys Leu Lys Asp Leu His Asp Gln Glu
 405 410 415
 Cys His Arg Ala Arg Glu Arg Leu Ala Glu Leu Glu Ala Leu Tyr Pro
 420 425 430
 Glu Val Ser Val Ser Val Val Glu Thr Glu Arg Glu Thr Lys Phe Lys
 435 440 445
 Leu Glu Thr Ala Tyr Gly Asn Leu Glu Glu Arg Tyr Gln Ser Val Val
 450 455 460
 Arg Asp Gln Glu Asp Tyr Trp Lys Glu Glu Glu Asn Lys Glu Ala Glu
 465 470 475 480
 Phe Arg Glu Lys Gly Thr Lys Val Arg Ser Pro Glu Glu Val Val Glu
 485 490 495
 Tyr Leu Gln Ile Leu Glu Asn Leu Ser Glu Asp Cys Ser Lys Gln Leu
 500 505 510
 Thr Ile Ala Glu Val Val Val Leu Gly Val Glu Leu Glu Ala Thr Ala
 515 520 525
 Glu Phe Glu Tyr Thr Ile Leu Ser Asp Ala Ala Asn Arg Leu Lys Val
 530 535 540
 Leu Cys Glu Asp Ile Glu Asp Ile Leu Pro Arg Val Glu Glu Ile Glu
 545 550 555 560
 Ile Met Leu Arg Ile Ala Glu Leu Pro Phe Leu Pro Ile Lys Gln Ala
 565 570 575
 Phe Thr Lys Ala Phe Leu Gln Tyr Asn Ser Cys Lys Asp Lys Leu Ala
 580 585 590
 Lys Val Glu Pro Tyr Cys Gln Glu Ser Val Asp Tyr Lys Ser Gly Phe
 595 600 605
 Arg Val
 610

<210> 48
 <211> 163
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0046

<400> 48

Glu	Arg	Phe	Gln	Ser	Leu	Asn	Gln	Asp	Leu	Gln	Asn	Val	Tyr	Gln	Glu
1				5					10					15	
Cys	Gln	Lys	Ala	Thr	Gly	Leu	Glu	Ser	Glu	Val	Ser	Ala	Tyr	Arg	Asp
			20					25					30		
His	Leu	Arg	Glu	Gln	Ile	Thr	Glu	Phe	Glu	Thr	Gln	Gly	Leu	Asp	Val
			35				40					45			
Ile	Lys	Glu	Glu	Leu	Leu	Phe	Val	Ser	Ser	Thr	Leu	Lys	Ser	Lys	Leu
			50			55					60				
Ser	Tyr	Asp	Pro	Leu	Ile	Ala	Asp	Ile	Pro	Cys	Met	Lys	Phe	Tyr	Glu
65					70					75					80
Glu	Tyr	Tyr	Asp	Gly	Ile	Asp	Lys	Ala	Arg	Val	Gln	Ser	Arg	Trp	Leu
				85					90					95	
Glu	Lys	Ser	Glu	Arg	Tyr	Arg	Lys	Ala	Lys	Lys	Gly	Phe	Gln	Glu	Met
			100					105					110		
Leu	Lys	Glu	Gly	Leu	Phe	Lys	Glu	Asp	Gln	Ala	Leu	Lys	Lys	Ala	Glu
			115				120					125			
Tyr	Arg	Leu	Leu	Arg	Glu	Lys	Arg	Met	Asn	Lys	Glu	Lys	Leu	Leu	Ile
			130				135				140				
Cys	Asn	Lys	Ile	Glu	Ala	Gln	Gln	Arg	Val	Gln	Glu	Phe	Gly	Pro	
145					150				155					160	
Ser	Asp	Ser													

<210> 49
 <211> 72
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0047

<400> 49

Glu	His	Phe	His	Leu	Lys	Val	Thr	Ile	Val	Gly	Phe	Phe	Arg	Phe	Val
1				5					10					15	
Leu	Glu	Gly	Ile	Leu	Thr	Met	Tyr	His	Phe	Gln	Lys	Ile	Arg	Met	Thr
			20					25					30		
Leu	Thr	Thr	Gln	Gly	Phe	Val	Leu	Asn	Lys	Ser	Leu	Arg	Lys	Asp	Tyr
			35				40					45			
Glu	Leu	Trp	Phe	Val	Tyr	Gly	Ser	Cys	Pro	Glu	Ser	Lys	Val	Lys	Leu
			50			55					60				
Gln	Thr	Ser	Ser	His	Lys	Trp	Leu								
65					70										

<210> 50
 <211> 705
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0048

<400> 50

Met	Lys	Glu	Leu	Arg	His	Glu	Ser	Tyr	Asn	Arg	Ala	Leu	His	Lys	Leu
1				5					10					15	
Ser	His	Gln	Trp	Val	Arg	Tyr	Phe	Leu	Tyr	Thr	Phe	Val	Ser	Cys	Ser
			20					25					30		
Phe	Ile	Val	Ala	Ile	Phe	Thr	Phe	Ala	Trp	Leu	Lys	Val	Leu	Tyr	Val
			35				40					45			
Pro	Glu	Tyr	Lys	Ala	Gly	Glu	Ile	Ser	Arg	Ile	Ser	Leu	Thr	Ala	Pro
			50			55					60				

Met	Asp	Phe	Ser	Leu	Ser	Trp	Ser	Ala	His	Lys	Phe	Tyr	Lys	Arg	Thr
65					70					75					80
Ala	His	Ile	Ser	Glu	Ala	Phe	Gly	Lys	Val	Tyr	His	Leu	Thr	Leu	Ser
				85					90					95	
Pro	Gly	Ser	Leu	Leu	Ser	Lys	Glu	Gly	Asn	Ala	Asp	Glu	Asn	Thr	Asp
			100					105					110		
Tyr	Trp	Phe	Lys	Lys	Ala	Ala	Asp	Phe	Leu	Leu	Ser	Thr	Asn	Phe	Val
		115					120					125			
Asp	Ser	Ser	Thr	Gln	Lys	Cys	Leu	Lys	Asp	Leu	Cys	Ile	Tyr	Pro	Pro
	130					135					140				
Leu	Leu	Gly	Lys	Glu	Lys	Lys	Thr	Leu	Glu	Ile	Asn	Ile	Asn	Ser	Asn
145					150					155					160
Lys	Gly	Asn	Val	Ile	Ala	Gln	Cys	Phe	Cys	His	Leu	Lys	Ile	Phe	Leu
			165						170					175	
Ile	Gln	Glu	Asn	Cys	Pro	Gln	Pro	Cys	Phe	Asp	Ala	Ile	Met	Asp	Ile
			180					185					190		
Leu	Lys	Ile	Ala	Asn	Phe	Glu	Val	Ala	Val	Asp	Lys	Glu	Met	Ser	Gly
	195					200						205			
Cys	Val	Lys	Gly	Glu	Leu	Leu	Gly	Lys	Arg	Cys	Ile	Glu	Lys	Ile	Thr
	210					215					220				
Lys	Gly	Thr	Pro	Ile	Leu	Glu	Lys	Tyr	Gln	Arg	Ile	Asp	Asp	Arg	Asp
225					230					235					240
Ala	Lys	Ile	Leu	Lys	Gln	Leu	Arg	Ala	Gln	Leu	Leu	Ser	Val	His	Thr
			245						250					255	
Leu	Phe	Ser	Cys	Arg	Ser	Leu	Trp	Gly	Ala	Ile	Phe	Val	Val	Leu	Leu
		260						265					270		
Ile	Leu	Leu	Trp	Gly	Tyr	Gly	Ala	Leu	Lys	Ala	Leu	Cys	Pro	Glu	Met
	275						280					285			
Leu	Lys	Ser	Pro	Gln	Arg	Phe	Met	Leu	Tyr	Ile	Ala	Ile	Leu	Thr	Leu
	290					295					300				
Ser	Leu	Leu	Trp	Cys	Arg	Gly	Thr	Glu	Ile	Phe	Cys	Ala	Tyr	Trp	Val
305				310						315					320
Ser	Tyr	Leu	Ser	Tyr	Pro	Pro	Ile	Leu	Pro	Phe	Thr	Ala	Val	Leu	Leu
			325						330					335	
Gly	Tyr	Phe	Leu	Gly	Leu	Pro	Ile	Ala	Gly	Phe	Ser	Cys	Thr	Phe	Leu
		340						345					350		
Ala	Leu	Leu	Tyr	Thr	Leu	Gly	Ser	Asp	Leu	Trp	Asn	Asn	Ser	Trp	Phe
	355					360						365			
Leu	Ser	Ile	Asn	Leu	Leu	Cys	Ser	Trp	Arg	Ile	Leu	Val	Ser	Leu	His
	370					375					380				
Arg	Val	Ser	Arg	Leu	Ser	Ser	Val	Phe	Trp	Ala	Cys	Met	Lys	Leu	Gly
385				390						395					400
Gly	Val	Ala	Met	Gly	Ser	Leu	Leu	Met	Phe	Arg	Ile	Phe	Thr	Asn	Thr
			405						410					415	
Ile	Ser	Arg	Glu	Ala	Leu	Tyr	Ala	Asp	Gly	Ile	Glu	Ser	Phe	Val	Tyr
		420						425					430		
Ser	Leu	Ile	Thr	Ala	Ile	Ser	Val	Val	Ala	Leu	Ile	Pro	Val	Phe	Glu
	435					440						445			
Ala	Ser	Phe	Gly	Ala	Ser	Thr	Asn	Phe	Ser	Leu	Leu	Thr	Tyr	Leu	Ser
	450					455					460				
Pro	Glu	Asn	Ala	Leu	Leu	Lys	Arg	Leu	Phe	Lys	Glu	Ala	Pro	Gly	Thr
465				470						475					480
Tyr	Gln	His	Ser	Val	Leu	Val	Gly	Ser	Leu	Ala	Glu	Ala	Ala	Ala	Gln
			485						490					495	
Ala	Ile	Gly	Ala	Asp	Ser	Leu	Tyr	Cys	Leu	Val	Ala	Ala	His	Tyr	His
		500						505					510		
Asp	Ile	Gly	Lys	Leu	Ile	Asn	Pro	Gly	Phe	Phe	Ser	Glu	Asn	Gln	Lys
	515						520					525			
Ile	Leu	Gln	Gln	Ser	Gly	His	Ser	Leu	Ser	Pro	Leu	Glu	Cys	Ala	Lys
	530					535					540				

Met Ile Met Arg His Ile Pro Glu Gly Val Asn Leu Ala Arg Gln Ala
 545 550 555 560
 Gly Leu Pro Glu Ser Phe Ile Gln Val Ile Glu Glu His His Gly Thr
 565 570 575
 Ser Val Ile Arg Ser Ala Tyr Tyr Ser His Met Val Glu Asn Pro Ser
 580 585 590
 Thr Gly Ser Phe Asp Glu Glu Leu Phe Arg Tyr Ser Gly Asn Lys Pro
 595 600 605
 Ser Ser Lys Glu Thr Thr Ile Ile Met Ile Ala Asp Ser Phe Glu Ala
 610 615 620
 Ala Ser Arg Ser Leu Lys Asn Ala Ser Leu Pro Asp Leu Gln Arg Leu
 625 630 635 640
 Ile Asp Gln Ile Ile Gln Gly Lys Leu Gln Asp Gly Gln Phe Ser Cys
 645 650 655
 Ser Pro Ile Thr Leu Asp Glu Leu Ala Leu Ile Ser Lys Ser Met Val
 660 665 670
 Gln Thr Leu Tyr Gly Ala Leu His Ser Arg Met Lys Tyr Pro Glu Ile
 675 680 685
 Ser Tyr Gln Ile Ser Met Asp Ser Cys Pro Lys Pro Ser Ile Gly Gly
 690 695 700
 Thr
 705

<210> 51
 <211> 182
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0049

<400> 51
 Leu Lys Glu Lys Arg Arg Asn Ile Val Tyr Leu Leu Val Ile Tyr Gln
 1 5 10 15
 Glu Ile Phe Trp Leu Thr Met Leu His Gln Pro Tyr Tyr Asp Lys Ile
 20 25 30
 Leu Thr Gly Asn Thr Ile Tyr Ile Pro Gly His Thr His Lys Asp Ser
 35 40 45
 Asn Lys Leu Phe Gln Lys Lys Ser Arg Ala Ile Trp Val Asp Glu Lys
 50 55 60
 Pro Phe Ser Leu Asp Cys Phe Ser Asn Val Phe Leu Ile Phe Val Ser
 65 70 75 80
 Leu Val Pro Ile Ala Gly Leu Val Arg Ala Tyr Gln Ile Lys Lys Ser
 85 90 95
 Leu Asp Arg Thr Thr Val Gln Ile Gly Tyr Ser Pro Ser Leu Ser Cys
 100 105 110
 Glu Gln Lys Glu Cys Val Glu Ala Phe Val Asn Gly Tyr Gly Leu Ile
 115 120 125
 Cys Ile Ser Ile Leu Gly Gly Leu Gly Ile Leu Val Pro Ile Leu Ile
 130 135 140
 Leu Val Val Leu Ser Leu Leu Leu Gly Ile Leu Met Leu Phe Ser
 145 150 155 160
 Leu Ser Thr Tyr Glu Ser Ile Lys Asn Tyr Ile Ser Lys His Ile Cys
 165 170 175
 Trp Lys Ser Asn Ala Thr
 180

<210> 52
 <211> 117
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0050

<400> 52

Val	Ser	Trp	Phe	Pro	Ile	Leu	Gly	Ile	Phe	Leu	Ala	Met	Arg	Tyr	Ala
1				5					10					15	
Lys	His	Gln	Thr	Asn	Trp	Asn	Asp	Glu	Asn	Val	Lys	Ala	Asn	Leu	Gly
			20					25					30		
Tyr	Leu	Pro	Ser	Thr	Asn	Cys	Lys	Asn	Ala	Leu	Cys	Arg	Met	Ser	Ser
		35				40						45			
Arg	Leu	Thr	Ser	Ser	Ile	Lys	Thr	Ala	Gly	Ile	Leu	Gly	Gly	Cys	Gly
	50				55						60				
Ile	Leu	Leu	Pro	Ile	Phe	Leu	Leu	Leu	Leu	Ala	Ile	Leu	Leu	Ile	Ser
65					70					75				80	
Val	Leu	Phe	Gln	Leu	Ile	Met	Leu	Pro	Phe	Arg	Leu	Cys	Cys	Phe	Ala
			85						90					95	
Leu	Arg	Gln	Ser	Val	Ser	Ser	Asp	Thr	Val	Thr	Asn	Leu	Leu	Leu	Leu
			100					105					110		
Asn	Asn	Thr	Leu	Ala											
			115												

<210> 53

<211> 105

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0051

<400> 53

Cys	Phe	Ala	Tyr	Leu	Ile	Ala	Arg	Asn	Ile	Pro	Arg	Met	Gly	Asn	His
1				5					10					15	
Glu	Thr	Tyr	Ile	His	Pro	Gly	Val	Leu	Pro	Ser	Ser	His	Ala	Gln	Asp
			20					25					30		
Val	Ser	Arg	Ser	Thr	Val	Tyr	Pro	Ser	Arg	Ser	Phe	Ile	Met	Arg	Arg
		35				40						45			
Met	Leu	Met	Gly	Trp	Asn	Phe	Asn	Arg	Val	Pro	Ser	Lys	Ser	Ser	Glu
	50				55						60				
Gln	Leu	Met	Asp	Gly	His	Arg	Ile	Pro	Leu	Ile	Phe	Phe	Gly	Lys	His
65					70					75				80	
His	Pro	Thr	Ile	Ser	Ile	Leu	Asn	Val	Asn	Arg	Phe	Ser	Trp	Leu	Ser
			85						90					95	
Ile	Phe	Tyr	Asn	Gly	Glu	Arg	Gly	Phe							
			100					105							

<210> 54

<211> 235

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0052

<400> 54

Lys	Met	Leu	Ser	Val	Cys	Tyr	Ser	Asp	Pro	Cys	Leu	Ser	Asp	Phe	Cys
1				5					10					15	
Gln	Gly	Lys	Arg	Pro	Leu	Arg	Ile	Ala	Ser	Arg	Asn	Ser	Asn	Leu	Ala
			20					25					30		
Lys	Ala	Gln	Val	His	Glu	Cys	Ile	Ser	Leu	Leu	Arg	Ser	Trp	Tyr	Pro
		35					40					45			

Thr	Phe	Ile	Ile	Gly	His	Val	Thr	Lys	Ser	Gly	Glu	Ile	Ala	Gly	Pro
210						215					220				
Arg	Val	Leu	Glu	His	Leu	Val	Asp	Thr	Val	Leu	Tyr	Phe	Glu	Gly	Asn
225					230					235					240
Ser	His	Ala	Asn	Tyr	Arg	Met	Ile	Arg	Ser	Val	Lys	Asn	Arg	Phe	Gly
			245						250					255	
Pro	Thr	Asn	Glu	Leu	Leu	Ile	Leu	Ser	Met	His	Ala	Asp	Gly	Leu	Lys
			260					265					270		
Glu	Val	Ser	Asn	Pro	Ser	Gly	Leu	Phe	Leu	Gln	Glu	Lys	Thr	Gly	Pro
		275					280					285			
Thr	Thr	Gly	Ser	Met	Ile	Ile	Pro	Ile	Ile	Glu	Gly	Ser	Gly	Ala	Leu
290						295					300				
Leu	Ile	Glu	Leu	Gln	Ala	Leu	Val	Ser	Ser	Ser	Pro	Phe	Ala	Asn	Pro
305					310					315					320
Val	Arg	Lys	Thr	Ala	Gly	Phe	Asp	Pro	Asn	Arg	Phe	Ser	Leu	Leu	Leu
				325				330						335	
Ala	Val	Leu	Glu	Lys	Arg	Ala	Gln	Val	Lys	Leu	Phe	Thr	Met	Asp	Val
			340					345					350		
Phe	Leu	Ser	Ile	Thr	Gly	Gly	Leu	Lys	Ile	Ile	Glu	Pro	Ala	Ala	Asp
		355					360					365			
Leu	Gly	Ala	Leu	Leu	Ala	Val	Ala	Ser	Ser	Leu	Tyr	Asn	Arg	Leu	Leu
	370					375					380				
Pro	Asn	Asn	Ser	Ile	Val	Ile	Gly	Glu	Val	Gly	Leu	Gly	Gly	Glu	Ile
385					390					395					400
Arg	His	Val	Ala	His	Leu	Glu	Arg	Arg	Ile	Lys	Glu	Gly	Lys	Leu	Met
				405					410					415	
Gly	Phe	Glu	Gly	Ala	Ile	Leu	Pro	Glu	Gly	Gln	Ile	Ser	Ser	Leu	Pro
			420					425					430		
Lys	Glu	Ile	Arg	Glu	Asn	Phe	Arg	Leu	Gln	Gly	Val	Lys	Thr	Ile	Lys
		435					440					445			
Asp	Ala	Ile	Arg	Leu	Leu	Leu									
	450					455									

<210> 56
 <211> 259
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0054

<400> 56															
Thr	Leu	Ser	Phe	Pro	Pro	Ile	Lys	Ile	Pro	Asn	Ser	Lys	Phe	Lys	
1			5					10					15		
Asp	Gly	Ala	Leu	Leu	Ser	Met	His	Pro	Pro	Ile	Asp	Ile	Thr	Ala	Ile
			20					25					30		
Glu	Ala	Lys	Leu	Asn	Phe	Thr	Phe	Thr	Gln	Pro	Lys	Leu	Leu	Glu	Ile
		35					40					45			
Ala	Leu	Thr	His	Pro	Ser	Tyr	Lys	Asn	Glu	Ser	Ala	Val	Gln	Ile	Glu
	50					55					60				
Asp	Ser	Glu	Arg	Leu	Glu	Phe	Leu	Gly	Asp	Ala	Val	Leu	Gly	Leu	Ile
65					70				75					80	
Val	Thr	Glu	His	Leu	Phe	Leu	Leu	Phe	Pro	Ser	Met	Asp	Glu	Gly	Thr
			85					90					95		
Leu	Ser	Thr	Ala	Arg	Ala	Ser	Leu	Val	Asn	Ala	Lys	Ala	Cys	Cys	Arg
			100					105					110		
Tyr	Thr	Thr	Met	Leu	Gly	Ile	Gly	Asp	Tyr	Leu	Leu	Ile	Gly	Lys	Gly
		115					120					125			
Glu	Lys	Ile	Gln	Ser	Glu	Arg	Gly	Arg	Leu	Ser	Ala	Tyr	Ala	Asn	Leu
	130					135					140				

Phe Glu Ser Ile Leu Gly Ala Val Tyr Leu Asp Gly Gly Leu Ser Pro
 145 150 155 160
 Ala Arg Lys Leu Thr Val Pro Leu Leu Pro Pro Arg Glu Glu Ile Leu
 165 170 175
 Pro Leu Met Ser Gly Asn Pro Lys Asn Leu Leu Gln Gln Phe Thr Gln
 180 185 190
 Lys Gln Phe Arg Val Leu Pro Val Tyr Gln Ser Thr Ala Val Thr Asp
 195 200 205
 Ala Gln Gly Asn Val Ser Tyr Gln Ile Gln Val Leu Val Asn Gln Glu
 210 215 220
 Val Trp Gly Glu Gly Asn Ala Ser Ser Lys Lys Glu Ala Glu Lys Ile
 225 230 235 240
 Ala Ala Gln Gln Ala Leu Asp Thr Tyr Gly Asn Lys Asn Gln Asn Thr
 245 250 255
 Met Asp Val

<210> 57
 <211> 165
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0055

<400> 57
 Cys Phe Trp Ile Cys Tyr Leu Ile Arg Ile Arg Met Arg Ser Ala Leu
 1 5 10 15
 His Leu Gln His Leu Arg His Phe His Asn His Gly Ser Ile Leu Phe
 20 25 30
 Glu Asn Leu Leu Thr Ile Lys Asp Cys Phe Leu Leu Glu Thr Lys Leu
 35 40 45
 Gln Asn Phe Ile Ala Lys Ala Ser Lys Thr Ile Asp Thr Val Arg Trp
 50 55 60
 Arg Glu Asn Ile Phe Arg Ser Met Pro Glu Ile Tyr Thr Val Val Arg
 65 70 75 80
 Lys Arg Arg Leu Asp Phe Phe Ala Ala Glu Leu Val His Arg Pro Lys
 85 90 95
 Leu Ser Leu Val Arg Asp Leu Trp Val Phe Pro Gly Glu Glu Ile Leu
 100 105 110
 Glu Gly Glu Glu Asp Cys Met Leu Phe Leu Leu Leu Ser Gly Asp Arg
 115 120 125
 Ala Gly Ser Gly Ile Phe Phe Thr Gly Pro Tyr Pro Ser Asp Leu Tyr
 130 135 140
 Glu Leu Glu Lys Gly Thr Thr Gly Leu Leu Leu Ala Phe Ser Ser Val
 145 150 155 160
 Gly Ile Pro Val Ile
 165

<210> 58
 <211> 610
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0056

<400> 58
 Glu Phe Leu Lys Leu Ser Leu His Arg Ile Ser Leu Met Lys Glu Val
 1 5 10 15

Glu	Gln	Arg	Ile	Arg	Ser	Leu	Tyr	Asp	Ala	Val	Thr	Ala	Glu	Asn	Ile	20	25	30
Cys	Arg	Trp	Leu	Ser	Asn	Asp	Cys	Thr	Gln	Gln	Asp	Ala	Lys	Thr	Ile	35	40	45
Leu	Gly	Trp	Leu	Asp	Thr	Asp	Pro	Ala	Gln	Leu	Glu	Asp	Leu	Phe	Gly	50	55	60
Ala	Thr	Leu	Thr	Phe	Gly	Thr	Gly	Gly	Leu	Arg	Ser	Leu	Met	Gly	Ile	65	70	75
Gly	Thr	Asn	Arg	Ile	Asn	Leu	Phe	Thr	Ile	Arg	Arg	Thr	Thr	Gln	Gly	85	90	95
Leu	Val	Gln	Val	Leu	Arg	Ala	His	Leu	Pro	His	Pro	Gly	Asp	Pro	Met	100	105	110
Arg	Val	Val	Val	Gly	Cys	Asp	Thr	Arg	His	Asn	Ser	Ile	Glu	Phe	Ala	115	120	125
Gln	Glu	Thr	Ala	Lys	Val	Leu	Ala	Gly	Asn	Gly	Cys	Glu	Val	Phe	Leu	130	135	140
Phe	Gln	Tyr	Pro	Glu	Pro	Leu	Ala	Leu	Val	Ser	Phe	Thr	Val	Arg	Tyr	145	150	155
Glu	Arg	Ala	Ile	Gly	Gly	Val	Met	Ile	Thr	Ala	Ser	His	Asn	Pro	Pro	165	170	175
Asn	Tyr	Asn	Gly	Tyr	Lys	Val	Tyr	Met	Ala	Ser	Gly	Gly	Gln	Val	Leu	180	185	190
Pro	Pro	Leu	Asp	Gln	Glu	Ile	Val	Ala	Ala	Cys	Ser	Ala	Val	Asn	Glu	195	200	205
Ile	Leu	Ser	Val	Pro	Ser	Ile	Asp	His	Pro	Asn	Ile	His	Leu	Ile	Gly	210	215	220
Lys	Glu	Tyr	Glu	Ala	Leu	Tyr	Arg	Asp	Thr	Leu	Lys	Gln	Leu	Gln	Leu	225	230	235
Tyr	Pro	Glu	Ala	Asn	Arg	Ile	Ser	Gly	Arg	Ser	Leu	Ser	Ile	Ser	Tyr	245	250	255
Ser	Pro	Leu	His	Gly	Thr	Gly	Ile	Ser	Leu	Val	Pro	His	Val	Leu	Lys	260	265	270
Asp	Trp	Gly	Phe	Leu	Ser	Val	His	Leu	Val	Glu	Lys	Gln	Ala	Ile	Gly	275	280	285
Asp	Gly	Asp	Phe	Pro	Thr	Val	Gln	Leu	Pro	Asn	Pro	Glu	Asp	Pro	Glu	290	295	300
Ala	Leu	Thr	Leu	Gly	Ile	Glu	Gln	Met	Leu	Ala	Asn	Asp	Asp	Asp	Leu	305	310	315
Phe	Ile	Ala	Thr	Asp	Pro	Asp	Ala	Asp	Arg	Val	Gly	Val	Val	Cys	Leu	325	330	335
Glu	Asp	Gly	Gln	Pro	Tyr	Arg	Phe	Asn	Gly	Asn	Gln	Met	Ala	Ser	Leu	340	345	350
Leu	Ala	Asp	His	Ile	Leu	Gly	Ala	Trp	Ser	Lys	Thr	Arg	His	Leu	Gly	355	360	365
Glu	His	Asp	Lys	Leu	Val	Lys	Ser	Leu	Val	Thr	Thr	Glu	Met	Leu	Ser	370	375	380
Ala	Ile	Ala	Lys	His	Tyr	His	Val	Asp	Leu	Ile	Asn	Val	Gly	Thr	Gly	385	390	395
Phe	Lys	Tyr	Ile	Gly	Glu	Lys	Ile	Glu	Ser	Trp	Arg	Asn	Ser	Thr	Asn	405	410	415
Lys	Phe	Val	Phe	Gly	Ala	Glu	Glu	Ser	Tyr	Gly	Cys	Leu	Tyr	Gly	Thr	420	425	430
His	Val	Glu	Asp	Lys	Asp	Ala	Ile	Ile	Ala	Ser	Ala	Leu	Ile	Ala	Glu	435	440	445
Ala	Ala	Leu	Gln	Gln	Lys	Leu	Gln	Gly	Lys	Thr	Leu	Cys	Asp	Ala	Leu	450	455	460
Leu	Ser	Leu	Tyr	Glu	Thr	Tyr	Gly	Tyr	Phe	Ala	Asn	Lys	Thr	Glu	Ser	465	470	475
Val	Val	Phe	Ser	Ala	Lys	Thr	Asp	Glu	Gln	Glu	Ile	Arg	Lys	Lys	Leu	485	490	495

Ser His Leu Glu Glu Ile Ser Ser Ala Asn Phe Phe Ser Gly Lys Tyr
 500 505 510
 Gln Val Glu Lys Phe Glu Asn Tyr Lys Gln Gly Ile Gly Phe Asn Leu
 515 520 525
 Leu Ser Lys Asp Ser Tyr Ala Leu Thr Leu Pro Lys Thr Ser Met Leu
 530 535 540
 Cys Tyr Tyr Phe Ser Gly Gly Gly Arg Val Ile Ile Arg Pro Ser Gly
 545 550 555 560
 Thr Glu Pro Lys Ile Lys Phe Tyr Phe Glu Met Ser Thr His Tyr Pro
 565 570 575
 Glu Arg Val Thr Asp Lys Glu Ile Gln Lys Gln Arg Glu Ala Glu Ser
 580 585 590
 Phe Gln His Leu Asp Asp Phe Ile Phe Asp Phe Lys Glu Lys Phe Ser
 595 600 605
 Asn Leu
 610

<210> 59
 <211> 214
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0057

<400> 59
 Ile Leu Lys Arg Tyr Val Val Met Ser Phe Val Pro Tyr Ser Leu Pro
 1 5 10 15
 Glu Leu Pro Tyr Asp Tyr Asp Ala Leu Glu Pro Val Ile Ser Ser Glu
 20 25 30
 Ile Met Ile Leu His His Gln Lys His His Gln Ile Tyr Ile Asn Asn
 35 40 45
 Leu Asn Ala Ala Leu Lys Arg Leu Asp Ala Ala Glu Thr Gln Gln Asn
 50 55 60
 Leu Asn Glu Leu Ile Ala Leu Glu Pro Ala Leu Arg Phe Asn Gly Gly
 65 70 75 80
 Gly His Ile Asn His Ser Leu Phe Trp Glu Thr Leu Ala Pro Ile Asp
 85 90 95
 Gln Gly Gly Gly Gln Pro Pro Lys His Glu Leu Leu Ser Leu Ile Glu
 100 105 110
 Arg Phe Trp Gly Thr Met Asp Asn Phe Leu Lys Lys Leu Ile Glu Val
 115 120 125
 Ala Ala Gly Val Gln Gly Ser Gly Trp Ala Trp Leu Gly Phe Cys Pro
 130 135 140
 Ala Lys Gln Glu Leu Val Leu Gln Ala Thr Ala Asn Gln Asp Pro Leu
 145 150 155 160
 Glu Pro Leu Thr Gly Lys Leu Pro Leu Leu Gly Val Asp Val Trp Glu
 165 170 175
 His Ala Tyr Tyr Leu Gln Tyr Lys Asn Val Arg Met Asp Tyr Leu Lys
 180 185 190
 Ala Phe Pro Gln Ile Ile Asn Trp Gly His Ile Glu Asn Arg Phe Ser
 195 200 205
 Glu Ile Ile Ser Ser Lys
 210

<210> 60
 <211> 312
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0058

<400> 60

Ile Arg Trp Leu Val Arg Leu Phe Ser Tyr Asp Lys Pro Lys Ile Lys
1 5 10 15
Val Gln Lys Ile Lys Ala Asp Gly Phe Ser Gly Trp Leu Lys Cys Asn
20 25 30
His Cys His Glu Met Ile His Ala Asn Glu Leu Gly Gln Asn Tyr Asn
35 40 45
Cys Cys Pro Lys Cys Ser Tyr His Tyr Arg Ile Thr Ala Ile Glu Arg
50 55 60
Val Lys Leu Leu Ala Asp Lys Asp Ser Trp Arg Pro Leu Tyr Thr Asp
65 70 75 80
Leu Lys Ser Gln Asp Pro Leu Glu Phe Ile Asp Thr Asp Thr Tyr Ala
85 90 95
Asn Arg Leu Glu Lys Ala Arg Lys Asn Thr Thr Glu Ser Glu Gly Val
100 105 110
Ile Val Gly Ile Cys Thr Ile Gly Leu His Pro Val Ala Leu Ala Val
115 120 125
Met Asp Phe Asn Phe Met Ala Gly Ser Met Gly Ala Val Val Gly Glu
130 135 140
Lys Leu Thr Arg Leu Ile Glu Glu Ala Ile Glu Thr Arg Leu Pro Val
145 150 155 160
Ile Ile Val Ser Ala Ser Gly Gly Ala Arg Met Gln Glu Ser Val Phe
165 170 175
Ser Leu Met Gln Met Val Lys Thr Ser Ala Ala Leu Ala Lys Leu His
180 185 190
Glu Ala Gly Leu Pro Tyr Ile Ser Val Leu Thr Asn Pro Thr Ser Gly
195 200 205
Gly Val Thr Ala Ser Phe Ala Ala Leu Gly Asp Ile Ile Ile Ala Glu
210 215 220
Pro Lys Ala Leu Ile Cys Phe Ala Gly Pro Arg Val Val Ala Gln Val
225 230 235 240
Ile Gly Glu Asp Leu Pro Glu Gly Ala Gln Lys Ser Glu Phe Leu Leu
245 250 255
Glu His Gly Met Ile Asp Lys Ile Val Glu Arg Lys Glu Leu Lys Thr
260 265 270
Thr Leu Gln Thr Leu Leu Asp Tyr Phe Leu Ala Gln Glu Tyr Thr Gly
275 280 285
Gly Lys Ser Lys Ala Pro Arg Asp Leu Ser Lys Arg Leu Lys Glu Ile
290 295 300
Phe Leu Leu Thr Asp Asp Ser Glu
305 310

<210> 61

<211> 163

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0059

<400> 61

Ile Lys His His Thr Ala Ser Cys Asn Asp Asn Ile Ile Cys Asn Ala
1 5 10 15
Ile Leu Met Thr Val Phe Cys Glu Leu Asp Ser Gly Gly Glu Leu Pro
20 25 30
Glu Tyr Thr Thr Pro Gly Ala Ala Gly Ala Asp Leu Arg Ala Asn Ile
35 40 45

Glu	Glu	Pro	Ile	Ala	Leu	Leu	Pro	Gly	Gln	Arg	Ala	Leu	Ile	Pro	Thr
50					55					60					
Gly	Ile	Lys	Ala	Glu	Ile	Pro	Glu	Gly	Tyr	Glu	Leu	Gln	Val	Arg	Pro
65					70					75					80
Arg	Ser	Gly	Leu	Ala	Leu	Lys	His	Gly	Ile	Thr	Val	Leu	Asn	Ser	Pro
			85						90					95	
Gly	Thr	Ile	Asp	Ser	Asp	Tyr	Arg	Gly	Glu	Ile	Arg	Val	Ile	Leu	Ile
			100					105					110		
Asn	Phe	Gly	Asp	Ser	Thr	Phe	Ile	Ile	Glu	Pro	Lys	Met	Arg	Ile	Ala
	115						120					125			
Gln	Val	Val	Leu	Ser	Pro	Val	Val	Gln	Ala	Thr	Phe	Val	Val	Lys	Gln
	130					135					140				
Glu	Ser	Leu	Ala	Glu	Thr	Ala	Arg	Gly	Ser	Gly	Gly	Phe	Gly	His	Thr
145					150					155					160
Gly	Ala	Ser													

<210> 62
 <211> 175
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0060

Arg	Lys	Leu	Pro	Glu	Glu	Val	Glu	Val	Leu	Val	Ile	Leu	Glu	Gln	Ala
1				5					10					15	
Lys	Met	Pro	Ser	Tyr	Cys	Gln	Asn	Gln	Gln	Asp	Phe	Ser	Leu	Phe	Ser
			20					25					30		
Leu	Leu	Ser	Pro	Arg	Leu	Val	Met	Phe	Leu	Gly	Lys	His	Ser	Arg	Asp
		35				40						45			
Glu	Ile	Leu	Gln	Asp	Leu	Thr	Asp	Leu	Val	Asp	Ala	Ala	Gly	Leu	Leu
	50					55					60				
Glu	Asp	Lys	Gln	Ala	Phe	Phe	Asp	Ala	Leu	Val	Arg	Arg	Glu	Asn	Ile
65					70					75					80
Met	Ser	Thr	Gly	Ile	Gly	Met	Gly	Val	Ala	Ile	Pro	His	Gly	Lys	Leu
				85					90					95	
Glu	Ser	Cys	Ser	Asn	Phe	Phe	Ile	Ala	Ile	Gly	Ile	His	Thr	Gln	Gly
			100					105					110		
Ile	Leu	Trp	Asp	Ala	Ile	Asp	Gly	Ala	Leu	Val	Arg	Leu	Val	Phe	Leu
		115					120					125			
Ile	Gly	Gly	Pro	Glu	Asn	Ala	Gln	Ala	Glu	Tyr	Leu	Lys	Leu	Leu	Ser
	130					135					140				
Thr	Leu	Thr	Leu	Ser	Leu	Arg	Glu	Glu	Ser	Arg	Arg	Gln	Gln	Leu	Leu
145					150					155					160
Gln	Val	Asn	Thr	Ile	Glu	Glu	Val	Met	Asn	Val	Phe	Val	Gly	Met	
				165					170					175	

<210> 63
 <211> 236
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0061

Arg	Ser	His	Glu	Cys	Ile	Cys	Gly	Asp	Val	Lys	Met	Asp	Leu	Lys	Leu
1				5					10					15	

<220>

<223> CPn0064

<400> 66

Leu	Val	Met	Thr	Lys	Ile	Gln	Cys	Ser	Ala	Gln	Tyr	Tyr	Arg	Ser	Arg
1				5					10					15	
Pro	Ala	Glu	Arg	Ala	Gln	Thr	Pro	Pro	Gln	Pro	Phe	Leu	Ala	Arg	Asp
			20					25					30		
Arg	Ala	Asp	Phe	Trp	Glu	Arg	His	Pro	Arg	Phe	Ser	Ala	Cys	Cys	Arg
		35					40					45			
Val	Leu	Leu	Leu	Val	Ala	Trp	Val	Val	Leu	Ala	Leu	Leu	Phe	Leu	Phe
	50					55					60				
Val	Met	Leu	Leu	Pro	Leu	Ala	Ala	Gly	Ser	Tyr	Leu	Leu	Ala	Phe	
65					70					75					

<210> 67

<211> 590

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0065

<400> 67

Tyr	Asp	Tyr	Tyr	Lys	Tyr	Asn	Met	Phe	Phe	Lys	Lys	Asn	Tyr	Met	Thr
1				5					10					15	
Asp	Phe	Pro	Thr	His	Phe	Lys	Gly	Pro	Lys	Leu	Asn	Pro	Ile	Lys	Val
			20					25					30		
Asn	Pro	Asn	Phe	Phe	Glu	Arg	Asn	Pro	Lys	Val	Ala	Arg	Val	Leu	Gln
		35					40					45			
Ile	Thr	Ala	Val	Val	Leu	Gly	Ile	Ile	Ala	Leu	Leu	Ser	Gly	Ile	Val
	50					55					60				
Leu	Ile	Ile	Gly	Thr	Pro	Leu	Gly	Ala	Pro	Ile	Ser	Met	Ile	Leu	Gly
65					70					75				80	
Gly	Cys	Leu	Leu	Ala	Ser	Gly	Gly	Ala	Leu	Phe	Val	Gly	Gly	Thr	Ile
				85					90					95	
Ala	Thr	Ile	Leu	Gln	Ala	Arg	Asn	Ser	Tyr	Lys	Lys	Ala	Val	Asn	Gln
			100					105					110		
Lys	Lys	Leu	Ser	Glu	Pro	Leu	Met	Glu	Arg	Pro	Glu	Leu	Lys	Ala	Leu
		115					120					125			
Asp	Tyr	Ser	Leu	Asp	Leu	Lys	Glu	Val	Trp	Asp	Leu	His	His	Ser	Val
	130					135					140				
Val	Lys	His	Leu	Lys	Lys	Leu	Asp	Leu	Asn	Leu	Ser	Lys	Thr	Gln	Arg
145					150					155				160	
Glu	Val	Leu	Asn	Gln	Ile	Lys	Ile	Asp	Asp	Glu	Gly	Pro	Ser	Leu	Gly
				165					170					175	
Glu	Cys	Ala	Ala	Met	Ile	Ser	Glu	Asn	Tyr	Asp	Ala	Cys	Leu	Lys	Met
		180						185					190		
Leu	Ala	Tyr	Arg	Glu	Glu	Leu	Leu	Lys	Glu	Gln	Thr	Gln	Tyr	Gln	Glu
	195						200					205			
Thr	Arg	Phe	Asn	Gln	Asn	Leu	Thr	His	Arg	Asn	Lys	Val	Leu	Leu	Ser
	210					215						220			
Ile	Leu	Ser	Arg	Ile	Thr	Asp	Asn	Ile	Ser	Lys	Ala	Gly	Gly	Val	Phe
225					230					235				240	
Ser	Leu	Lys	Phe	Ser	Thr	Leu	Ser	Ser	Arg	Met	Ser	Arg	Ile	His	Thr
			245						250					255	
Thr	Thr	Thr	Val	Ile	Leu	Ala	Leu	Ser	Ala	Val	Val	Ser	Val	Met	Val
			260					265					270		
Val	Ala	Ala	Leu	Ile	Pro	Gly	Gly	Ile	Leu	Ala	Leu	Pro	Ile	Leu	Leu
		275					280						285		

Ala	Val	Ala	Ile	Ser	Ala	Gly	Val	Ile	Val	Thr	Gly	Leu	Ser	Tyr	Leu
290						295					300				
Val	Arg	Gln	Ile	Leu	Ser	Asn	Thr	Lys	Arg	Asn	Arg	Gln	Asp	Phe	Tyr
305					310					315					320
Lys	Asp	Phe	Val	Lys	Asn	Val	Asp	Ile	Glu	Leu	Leu	Asn	Gln	Thr	Val
				325					330					335	
Thr	Leu	Gln	Arg	Phe	Leu	Phe	Glu	Met	Leu	Lys	Gly	Val	Leu	Lys	Glu
			340					345					350		
Glu	Glu	Glu	Val	Ser	Leu	Glu	Gly	Gln	Asp	Trp	Tyr	Thr	Gln	Tyr	Ile
	355						360					365			
Thr	Asn	Ala	Pro	Ile	Glu	Lys	Arg	Leu	Ile	Glu	Glu	Ile	Arg	Val	Thr
	370					375						380			
Tyr	Lys	Glu	Ile	Asp	Ala	Gln	Thr	Lys	Lys	Met	Lys	Thr	Asp	Leu	Glu
385					390					395					400
Phe	Leu	Glu	Asn	Glu	Val	Arg	Ser	Gly	Arg	Leu	Ser	Val	Ala	Ser	Pro
			405						410					415	
Ser	Glu	Asp	Pro	Ser	Glu	Thr	Pro	Ile	Phe	Thr	Gln	Gly	Lys	Glu	Phe
		420						425					430		
Ala	Lys	Leu	Arg	Arg	Gln	Thr	Ser	Gln	Asn	Ile	Ser	Thr	Ile	Tyr	Gly
	435						440					445			
Pro	Asp	Asn	Glu	Asn	Ile	Asp	Pro	Glu	Phe	Ser	Leu	Pro	Trp	Met	Pro
	450					455					460				
Lys	Lys	Glu	Glu	Glu	Ile	Asp	His	Ser	Leu	Glu	Pro	Val	Thr	Lys	Leu
465					470					475					480
Glu	Pro	Gly	Ser	Arg	Glu	Glu	Leu	Leu	Val	Glu	Gly	Val	Asn	Pro	
			485						490				495		
Thr	Leu	Arg	Glu	Leu	Asn	Met	Arg	Ile	Ala	Leu	Leu	Gln	Gln	Gln	Leu
			500					505					510		
Ser	Ser	Val	Arg	Lys	Trp	Arg	His	Pro	Arg	Gly	Glu	His	Tyr	Gly	Asn
		515					520					525			
Val	Ile	Tyr	Ser	Asp	Thr	Glu	Leu	Asp	Arg	Ile	Gln	Met	Leu	Glu	Gly
	530					535					540				
Ala	Phe	Tyr	Asn	His	Leu	Arg	Glu	Ala	Gln	Glu	Glu	Ile	Thr	Gln	Ser
545					550					555					560
Leu	Gly	Asp	Leu	Val	Asp	Ile	Gln	Asn	Arg	Ile	Leu	Gly	Ile	Ile	Val
			565					570					575		
Glu	Gly	Asp	Ser	Asp	Ser	Arg	Thr	Glu	Glu	Glu	Pro	Gln	Glu		
			580					585					590		

<210> 68
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0066

<400> 68															
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1				5					10					15	
Ile	Ser	Ile	Glu	Glu	Leu	Glu	Leu	Gln	Glu	Leu	Ala	Gly	Ser	Ser	Asn
			20					25					30		
Thr	Glu	Thr	Ile	Ser	Asn	Thr	Pro	Pro	Pro	Ser	Cys	Ala	Ala	Thr	Ala
	35					40						45			
Glu	Glu	Val	Ser	Leu	Phe	Ile	Glu	Gly	Gly	Arg	Arg	Asn	Ser	Glu	Asp
	50					55				60					
Glu	Glu	Gly	Pro	Leu	Gly	Ser	Cys	Glu	Val	Tyr	Asp	Val	Val	Cys	Ile
65				70						75					80
Thr	Asn	Gln	Gly	Asp	Pro	Glu	Val	Arg	Asp	His	Glu	Val	Arg	Val	Met
				85					90					95	

Tyr	Ile	Asn	Gly	Ser	Gly	Arg	Thr	Gln	His	Glu	Gly	Ile	Leu	Asp	Ala		
			100					105					110				
Met	Asn	Ile	Cys	Asp	Leu	Arg	Gly	Glu	Pro	Val	Arg	Phe	Ile	His	Asn		
		115					120					125					
Ser	Gly	Tyr	Gly	Leu	Gly	Ser	Cys	Phe	Leu	Gly	Ile	Arg	Asn	Arg	Ile		
	130					135					140						
Pro	Pro	Arg	Asp	Asn	Val	Ile	Ser	Gln	Ala	Ile	Gln	Ala	Arg	Trp	Asn		
145					150					155					160		
Glu	Phe	Phe	Ile	Phe	Ala	Glu	Asn	Ala	Asn	Arg	Asp	Tyr	Ile	Val	Leu		
			165						170					175			
Phe	Ser	Gly	Asn	Gly	Gly	Leu	Tyr	Leu	Gln	Val	Ala	Leu	Asp	Asn	Ser		
		180					185						190				
Ile	Tyr	Ser	His	His	Ile	Leu	Cys	Val	Gly	Ile	Gly	Ser	Ser	Tyr	Tyr		
	195						200					205					
Ile	Gln	Gly	Asn	Tyr	Arg	Val	His	Asn	Tyr	Arg	Val	Thr	Gly	Asp	Trp		
	210					215					220						
Thr	Thr	Leu	Leu	Asp	Arg	Arg	Gly	Ala	Thr	Ala	Val	Asn	Thr	Thr	Thr		
225					230					235					240		
Leu	Pro	Tyr	Ala	Asp	Ser	Ala	Glu	Gly	Leu	Phe	Leu	Pro	Ser	Val	Arg		
			245					250						255			
Cys	Pro	Ser	Tyr	Gln	Trp	Ala	Leu	Arg	Cys	Gly	Glu	Gln	Cys	Leu	Ile		
		260					265						270				
Met	Asp	Asn	Asn	Gln	Gln	Val	Gly	Phe	Arg	Pro	Gln	Asp	Ser	Ser	Ser		
	275						280					285					
Glu	Ile	Ala	Leu	Val	Val	Asn	Leu	Asn	Gln	Asp	His	Ser	Thr	Trp	Thr		
	290					295					300						
Arg	Leu	Ile	Glu	Trp	Ile	Asp	Arg	Gly	Asp	Ser	Gln	Ala	Val	Leu	Glu		
305					310					315					320		
Leu	Asn	Pro	Gln	Pro	Ser	His	Cys	Arg	Asp	Ile	Ala	Leu	Thr	Ala	Leu		
			325					330						335			
Tyr	Ala	Thr	Thr	Arg	Ile	Ser	Ser	Leu	Leu	Gln	Glu	Cys	Leu	Met	Ile		
		340					345						350				
Ser	Val	Thr	Tyr	Ala	Pro	Glu	Val	Phe	Val	Thr	Tyr	Ala	Ile	Val	Thr		
	355					360					365						
Gly	Tyr	Ser	Ile	Met	Thr	Leu	Arg	Tyr	Phe	Ile	Leu	Leu	Leu	Thr	Asn		
	370					375					380						
Arg	Pro	Gly	Cys	Arg	Arg	His	Phe	Arg	Val	Leu	Arg	Leu	Ala	Ala	Leu		
385					390					395					400		
Gly	Leu	Gln	Ser	Leu	Gly	Phe	Leu	Thr	Val	Leu	Leu	Asp	His	Ile	Asn		
			405						410					415			
Val	Thr	Arg	Arg	Val	Asn	Arg	Arg	Pro	Pro	Leu	Ile	Ser	Val	Ile	Phe		
		420						425					430				
Cys	Thr	Ala	Ser	Phe	Ala	Thr	Gly	Ser	Phe	Ile	Tyr	Val	Asp	Leu	Thr		
	435						440					445					
Arg	Met	Phe	Phe	Thr	Ser	Leu	Arg	Ser	Arg	Leu	Gln	Leu	Phe	Val	Gln		
	450					455				460							
Arg	Arg	Leu	Thr	Gly	Arg	Gly	Leu	Pro	Leu	Arg	Arg	Val	Phe	Val	Asn		
465				470					475						480		
His	Leu	Asp	Ser	Leu	Arg	Phe	Ser	Gln	Asn	Ala	Leu	Ile	Thr	Phe	His		
			485					490						495			
Gly	Gly	Leu	Phe	Met	Pro	Leu	Ile	Ile	Gly	Phe	Phe	Asn	Gln	Leu	Val		
		500					505						510				
Ile	Gln	Val	Pro	Arg	Val	Val	Ile	Arg	Pro	Asn	Thr	Thr	Ala	Val	Tyr		
	515						520					525					
Asp	Leu	Asn	Gln	Thr	Ser	Gln	Glu	Ala	Trp	Asp	Ser	Gly	Asp	Val	Leu		
	530					535					540						
Ala	Ile	Gly	Gln	Thr	Ile	Asn	Phe	Leu	Leu	Cys	Met	Ile	Leu	Leu	Val		
545					550					555					560		
Ile	Asn	Thr	Phe	Phe	Phe	Val	Arg	Ser	Val	Arg	Arg	Asn	Leu	His	Arg		
			565						570					575			

Arg Pro His Arg
580

<210> 69
<211> 378
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0067

<400> 69
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Arg Val Asn Ser Ser Gln Ala Leu Asn Gln Asp Cys Gln Glu Val Leu
20 25 30
Ala Asn Lys Gln Ser Lys Gly Leu Arg Cys Arg Ile Leu Ser Ile
35 40 45
Val Val Ala Val Ile Thr Phe Ile Ala Gly Val Val Leu Ile Ala Leu
50 55 60
Thr Leu Ala Ser Ile Leu Thr Ser Val Pro Tyr Leu Ala Leu Gly Val
65 70 75 80
Phe Leu Leu Ile Val Thr Leu Gly Cys Ile Ile Phe Ala Leu Cys Ser
85 90 95
Glu Lys Ile Lys Lys Val Pro Pro Thr Pro Ile Ser His Lys Glu Glu
100 105 110
Ile Ile Ala Trp Phe Glu Glu Arg Lys Asn Ile Asp Met Glu Lys Glu
115 120 125
Lys Glu Asp Pro Glu His Phe Gly Arg Thr Ala Thr Asp Ile Pro Met
130 135 140
Arg Ser Ala Leu Asp Gln Phe Asn His Ser Cys His His Ile His Glu
145 150 155 160
Ser Pro Ala Leu Thr Glu Thr Tyr Arg Ser His Gln Asp Val Leu Leu
165 170 175
Phe Lys Asp Trp Cys Pro Val Thr Leu Pro Asp Val Thr Ser Glu Glu
180 185 190
Glu Val Leu Ile Arg Ser Val Val Gly Ser Tyr Leu Leu Met Glu Ala
195 200 205
Cys Val Pro Lys Val Ser Met Leu Ile Asp Glu Leu His Asn Lys Leu
210 215 220
Lys Ser Pro Ser Glu Arg Glu Cys Leu Phe Ile Asp Lys Lys Thr Leu
225 230 235 240
Gln Arg Lys Ala Ser Phe Leu Phe Thr Gln Lys Asp Leu Ala Thr Phe
245 250 255
Phe Leu Ala Tyr Thr Arg Val Asn Asp Gly His Leu Ala Pro Phe Arg
260 265 270
Ala Gly Ala Lys Trp Ile Leu Ile His Tyr Val Arg Leu Arg Arg Gln
275 280 285
His Asn Gln Asn Asp Phe Phe Thr Pro Gly His Ser Cys Tyr Tyr Ala
290 295 300
Arg Leu Ala Phe Asn Gln Thr Gln Arg Leu Tyr His Gln Leu Phe Asn
305 310 315 320
Val Glu Lys Leu Arg Ser Ile Tyr Ala Asn Met Asp Lys Asp Pro Leu
325 330 335
Cys His Pro Trp Ala Phe Ile Pro Ile Tyr Asp Leu Leu Lys Thr Glu
340 345 350
Asp His Gly Asp Gly Phe Leu Glu Gln Gln Glu Asp Arg Glu Tyr Pro
355 360 365
Ser Arg Ala Ala Gln Asp Gln Phe Trp Gly
370 375

<210> 70
 <211> 193
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0068

<400> 70
 Ser Phe Met Ile Lys Lys Phe Phe Ile Tyr Ser Leu Ile Phe Ser Cys
 1 5 10 15
 Ser Phe Ser Ala Pro Leu Lys Gly Ile Cys Asn Glu Asp Val Ser Ser
 20 25 30
 Gln Ser Arg Ile Glu Glu Asp Pro Glu Val Leu Ile Thr Gln Leu Asn
 35 40 45
 Glu Leu Ile Glu Thr Pro Ile Glu Glu Gly Lys Glu Ile Arg Asn Glu
 50 55 60
 Leu Gln Ala Ile Ser Asp Gly Gln Lys Ser Ser Glu Glu Ile Glu Glu
 65 70 75 80
 Ser Cys Gly Thr Ser Asp Ser Glu Gly Leu Ser Glu Lys Thr Asp Lys
 85 90 95
 Glu Ser Ser Asn Glu Tyr Val Leu Asp Phe Phe Asp Ser Met Val Gln
 100 105 110
 Arg Leu Glu Gly Ile Ser Lys Met Cys Gln Ser Gly Gln Val Ala Gln
 115 120 125
 Ile Ile Asp Cys Phe Asn Arg Glu Phe Asp Ile Arg Asn Arg Glu Leu
 130 135 140
 Glu Leu Lys Asn Arg Glu Leu Glu Leu Arg Glu Lys Asp Leu Glu Phe
 145 150 155 160
 Lys Lys Ser Ile Leu Asp Trp Asn Lys Glu Lys Val Ser Arg Glu Leu
 165 170 175
 Ala Phe Gln Arg Glu Gln Asp Ile Lys Gln Thr Leu Met Leu Leu Lys
 180 185 190
 Lys

<210> 71
 <211> 632
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0069

<400> 71
 Leu Asn Phe Leu Tyr Val Tyr Leu Leu Ile Phe Asn Leu Gly Ile Met
 1 5 10 15
 Thr Thr Pro Pro Pro Ser Arg Ser Ser Ser Pro Pro Pro Tyr Asp Trp
 20 25 30
 Ile Glu Leu Gln Asp Leu Gly Asn Thr Asn Asn Asn Ser Ser Arg Ala
 35 40 45
 Thr Pro Pro Pro Pro Glu Val Gly Gly Glu Leu Pro Pro Tyr Phe Ser
 50 55 60
 Ala Ser Asn Phe Val Val Ile Glu Arg Gly Ala Pro Ser Leu Pro Ser
 65 70 75 80
 Pro Gln Gln Leu Leu Ser Leu Pro Glu Tyr Ser Arg Gln Pro Pro Pro
 85 90 95
 Gly Tyr Phe Asp Glu Thr Ala Ser Ile Thr Ser Arg Thr Ser Glu Glu
 100 105 110
 Met Phe Gly Thr Leu Val Ser Thr Leu Cys Cys Pro Ala Asn Ser Glu
 115 120 125

Arg	Asp	Trp	Glu	Asp	His	Glu	Val	Asn	Cys	Ile	Tyr	Ile	Ala	Ser	Thr
130						135					140				
Ser	Asp	Thr	Gln	Leu	Glu	Ala	Val	Gln	Gly	Gly	Met	His	Ile	Thr	Glu
145					150					155					160
Leu	Arg	Gly	Glu	Pro	Val	Arg	Val	Leu	Tyr	Glu	Thr	Gly	His	Leu	Tyr
				165					170					175	
Ala	Phe	Ala	Arg	Glu	Asn	Thr	Cys	His	Ser	Arg	Leu	Glu	Val	Ser	His
				180				185					190		
Thr	Val	Arg	Ala	Met	Thr	Tyr	Phe	Trp	Asp	Arg	Phe	Phe	Ser	Arg	His
		195					200					205			
Trp	Asn	Val	Gly	Arg	Arg	Phe	Leu	Val	Phe	Tyr	Gln	Gly	Asn	Gly	Gly
	210					215					220				
Ala	Tyr	Val	Gln	Ala	Ala	Leu	Asp	Ser	Ser	Met	His	Thr	Gln	Asp	Ile
225					230					235					240
Tyr	Val	Leu	Gly	Leu	Ser	Pro	Thr	Val	Tyr	Ile	Arg	Gly	Asn	Tyr	His
				245					250					255	
Val	Gln	His	Tyr	Arg	Val	Arg	Gly	Phe	Trp	Pro	Ser	Cys	Leu	Asp	Ser
			260					265					270		
Leu	Ala	Ala	Cys	Ala	Glu	Asn	Thr	Ser	Val	Leu	Pro	Tyr	Gly	Glu	Ser
	275						280					285			
Ser	Asp	Gly	Ile	Phe	Tyr	Pro	Ser	Leu	Phe	Ser	His	Thr	Phe	Asp	Asn
	290					295					300				
Ala	Ile	Arg	Tyr	Gly	Glu	Arg	Cys	Leu	Leu	Val	Cys	Ser	Glu	Gly	Met
305					310					315					320
Gly	Met	Leu	Pro	Glu	Thr	Gln	Gln	Gln	Thr	Ser	Pro	Leu	Thr	Ser	Leu
				325					330					335	
Glu	Gly	Gly	His	Glu	Val	Ala	Leu	Val	Leu	Asn	Pro	Gln	Gln	Asn	Pro
			340					345					350		
Glu	Ala	Leu	Ser	Ile	Ala	Ser	Arg	Leu	Met	His	Glu	Glu	Arg	Gly	Gly
		355					360					365			
Arg	Leu	Glu	Ser	Asn	Tyr	Met	Pro	Gly	Arg	Ser	Ser	Asn	Pro	Phe	Met
	370					375					380				
Thr	Ser	Met	Tyr	Val	Leu	Val	Arg	Leu	Asn	Thr	Leu	Ala	Gln	Ile	Tyr
385					390					395					400
Leu	Met	Ser	Pro	Tyr	Tyr	Ser	Phe	Gln	Ser	Asn	Asp	Ile	Val	Cys	Leu
				405					410					415	
Ile	Phe	Ile	Ser	Ser	Ala	Ala	Val	Glu	Thr	Val	Ser	Tyr	Ile	Phe	Leu
			420					425					430		
Thr	Val	Thr	Asp	Ser	Thr	Cys	Gly	Arg	Arg	Tyr	Leu	Arg	Val	Pro	Arg
		435					440					445			
Leu	Val	Cys	Thr	Gly	Leu	Arg	Asn	Leu	Ala	Leu	Pro	Thr	Thr	Leu	Leu
	450					455					460				
Glu	Leu	Leu	Ile	Leu	Ser	Tyr	Pro	Arg	Ser	Val	Glu	Gly	Val	Pro	Phe
465					470					475					480
Asn	Val	Arg	Phe	Ile	Leu	Gly	Tyr	Met	Cys	Thr	Thr	Arg	Val	Val	Phe
			485						490					495	
Phe	Ala	Trp	Asn	Leu	Ile	Leu	His	Trp	Pro	Phe	Arg	Cys	Leu	Arg	His
			500					505					510		
Gly	Ile	Gln	Leu	Phe	Val	His	Arg	Ser	Ile	Ile	Gly	His	Thr	Leu	Gly
		515					520					525			
Ala	Arg	Ile	Thr	Asp	Leu	Thr	Leu	Ala	Ser	Met	Arg	Tyr	Ala	Ile	Val
	530					535					540				
Phe	Pro	Ser	Ile	Val	Ser	Ser	Cys	Leu	Leu	Thr	Ala	Leu	Ala	His	Ala
545					550					555					560
Asn	Thr	Asn	Ile	Leu	Ala	Leu	Asp	Pro	Tyr	Arg	Leu	Ile	Glu	Ser	Gly
				565					570					575	
Asp	Leu	Arg	Arg	Pro	Ala	Phe	Asn	Asp	Asp	Glu	Met	Gln	Gln	Ala	Asp
			580					585					590		
Asn	Pro	Trp	Asp	Ala	Tyr	Ser	Ile	Gly	Leu	Val	Ile	Asn	Thr	Cys	Ile
		595					600					605			

Tyr Met Leu Ile Leu Phe Ala Asn Leu Ile Phe Met Val Tyr Ser Val
610 615 620
Arg Arg Tyr His Arg Ser Arg Arg
625 630

<210> 72
<211> 64
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0070

<400> 72
Tyr Lys Val Gly Leu Phe His Leu Lys Asn Gln Asn Phe Phe Ser Asn
1 5 10 15
Gln Ser Arg Thr Tyr Glu Gln Arg Phe Pro Lys Val Ser Pro His Phe
20 25 30
Glu Ser Ile Leu Arg Leu Gln Ser Val Gly Phe Ser Ser Gln Gly Thr
35 40 45
Leu Leu Ile Ser Phe Arg Asp Thr Glu Leu Lys Arg Asp Leu Tyr Ile
50 55 60

<210> 73
<211> 156
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0071

<400> 73
Ile Lys Ser Leu Arg Ser Ile Leu Glu Phe Ile Cys Pro Leu Gln His
1 5 10 15
Ala Arg Cys Leu Lys Lys Gln His Lys Ile Ile Glu Glu Leu Phe Pro
20 25 30
Glu Pro Phe Gln Lys Asp His Leu Tyr Leu Lys Leu Met Glu Asn Ser
35 40 45
Ser Ser Arg Asp Ala Phe Asp Lys Lys Arg Met Leu Lys Glu Asn Leu
50 55 60
Val Val Gly Cys Gln Ser Asp Leu Tyr Leu Tyr Glu Val Tyr Gln Asp
65 70 75 80
Gly Ile Leu Phe Phe Phe Thr Tyr Thr Lys Ala Leu Met Ser Ser Gly
85 90 95
Ile Ala Ser Leu Phe Thr Glu Val Tyr Ser Gly Glu Thr Pro Ser Thr
100 105 110
Ile Leu Thr Cys Lys Pro Ile Phe Phe Gln Arg Leu Thr Pro Tyr Leu
115 120 125
Ser Phe Gly Arg Leu Asn Gly Gly Glu Ser Leu Tyr Met Arg Met Lys
130 135 140
Gln Ile Ala Val Gln Tyr Leu Lys Pro Pro Gln Thr
145 150 155

<210> 74
<211> 365
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0072

<400> 74

Arg	Gly	Tyr	Arg	Ser	Thr	Lys	Thr	Ser	Val	Tyr	Lys	Glu	Lys	Val	Leu
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Ile	Leu	Ile	Tyr	Cys	Leu	Leu	Phe	Tyr	Phe	Phe	His	Tyr	Arg	Met	Ser
			20					25					30		
Thr	Pro	Leu	Ser	Ser	Gly	Gly	Ile	Ser	Pro	Ser	Asp	Gln	Tyr	Val	Pro
		35				40						45			
Gln	Glu	Leu	Phe	Cys	Asp	Arg	Leu	Ser	Ser	Ser	Arg	Ser	Asn	Ser	Pro
50					55						60				
Asp	Ser	Asn	Ala	Ser	Gly	Asp	Ser	Pro	Ile	Val	Ser	Pro	Pro	Ile	Ser
65					70					75					80
Ala	Leu	Val	Ala	Leu	Thr	Asp	Leu	Lys	Leu	Val	Pro	Tyr	Asn	Gln	Asn
				85				90						95	
Ser	Phe	Ser	Trp	Thr	Thr	Arg	Leu	Lys	Asn	Ala	Val	Glu	Lys	Ile	Gly
			100				105						110		
Leu	Phe	Leu	Gln	Arg	Asn	Trp	Lys	Tyr	Ile	Leu	Leu	Tyr	Ile	Leu	Ala
		115				120						125			
Trp	Ala	Leu	Ile	Leu	Val	Cys	His	His	Thr	Val	Ala	Leu	Thr	Leu	Thr
		130				135					140				
Ile	Trp	Leu	Gly	Val	Gly	Leu	Gly	Ile	Gly	Val	Val	Phe	Gly	Ile	Phe
145					150					155					160
Thr	Ala	Thr	Cys	Leu	Asp	Lys	Glu	Asn	Lys	His	Arg	His	Val	Asn	Ser
				165				170						175	
Leu	Trp	Asn	Leu	Ile	Asn	His	Gly	Ile	Leu	Gln	Leu	Asp	Pro	Asn	Gly
		180					185						190		
Thr	Arg	Gln	Ile	Leu	Leu	Ala	Thr	Met	Ile	Ala	Ser	Ile	Ser	Ala	Leu
		195					200						205		
Ile	Tyr	Ala	Val	Pro	Gln	Ala	Val	Gly	Leu	Val	Ile	Gly	Phe	Ser	Ile
		210				215					220				
Gly	Asn	Gln	Leu	Ser	Ile	Asn	Thr	Val	Tyr	Gly	Ala	Arg	Leu	Gly	Asp
225					230					235					240
Glu	Ala	Thr	Tyr	Ala	Ile	Asp	Arg	Lys	Ala	His	Lys	Lys	Arg	Ile	Glu
				245				250						255	
Asn	Ile	Glu	Gln	Ala	Ile	Asn	Gln	His	Gln	Ile	Ile	Lys	His	Gln	Met
		260					265						270		
Ile	Asn	Gln	Lys	Gln	Leu	Asn	Ala	Leu	Ile	Glu	Ile	Asn	Arg	Asn	Asn
		275					280						285		
Gln	Thr	Asp	Pro	Ala	Thr	Ala	Asn	Leu	Leu	Ala	Ser	Leu	Lys	Leu	Asn
		290				295					300				
Leu	Asn	Gln	Pro	Met	Pro	Tyr	Cys	Phe	Ser	Met	Pro	Glu	Cys	Gly	Val
305					310					315					320
Thr	Ser	Ser	Tyr	Leu	Asp	Leu	Asn	Asn	Asn	Ser	Pro	Asp	Asp	Ile	Ile
				325				330						335	
Ala	Arg	Ala	Asp	Gln	Cys	Ile	Met	Thr	Leu	Ser	Gln	Thr	Leu	Gln	Gln
			340					345					350		
Ile	Lys	Lys	Glu	Pro	Asp	Arg	Ile	Ile	Glu	Ser	Asn	His			
		355					360					365			

<210> 75

<211> 74

<212> PRT

<213> Chlamydia pneumoniae .

<220>

<223> CPn0073

<400> 75

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Glu	Leu	Leu	Pro	Gly	Met	His	Phe	Arg	Val	Ile	Leu	Glu	Asn	Gly	Met
			20					25					30		

Pro Val Thr Ala His Leu Cys Gly Lys Met Arg Met Ser Asn Ile Arg
35 40 45
Leu Leu Val Gly Asp Arg Val Thr Val Glu Met Ser Ala Tyr Asp Leu
50 55 60
Thr Lys Ala Arg Val Val Tyr Arg His Arg
65 70

<210> 76
<211> 398
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0074

<400> 76
Glu Asp Phe Glu Met Ser Lys Glu Thr Phe Gln Arg Asn Lys Pro His
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Ile Asn Ile Gly Thr Ile Gly His Val Asp His Gly Lys Thr Thr Leu
20 25 30
Thr Ala Ala Ile Thr Arg Ala Leu Ser Gly Asp Gly Leu Ala Ser Phe
35 40 45
Arg Asp Tyr Ser Ser Ile Asp Asn Thr Pro Glu Glu Lys Ala Arg Gly
50 55 60
Ile Thr Ile Asn Ala Ser His Val Glu Tyr Glu Thr Pro Asn Arg His
65 70 75 80
Tyr Ala His Val Asp Cys Pro Gly His Ala Asp Tyr Val Lys Asn Met
85 90 95
Ile Thr Gly Ala Ala Gln Met Asp Gly Ala Ile Leu Val Val Ser Ala
100 105 110
Thr Asp Gly Ala Met Pro Gln Thr Lys Glu His Ile Leu Leu Ala Arg
115 120 125
Gln Val Gly Val Pro Tyr Ile Val Val Phe Leu Asn Lys Val Asp Met
130 135 140
Ile Ser Gln Glu Asp Ala Glu Leu Ile Asp Leu Val Glu Met Glu Leu
145 150 155 160
Ser Glu Leu Leu Glu Glu Lys Gly Tyr Lys Gly Cys Pro Ile Ile Arg
165 170 175
Gly Ser Ala Leu Lys Ala Leu Glu Gly Asp Ala Asn Tyr Ile Glu Lys
180 185 190
Val Arg Glu Leu Met Gln Ala Val Asp Asp Asn Ile Pro Thr Pro Glu
195 200 205
Arg Glu Ile Asp Lys Pro Phe Leu Met Pro Ile Glu Asp Val Phe Ser
210 215 220
Ile Ser Gly Arg Gly Thr Val Val Thr Gly Arg Ile Glu Arg Gly Ile
225 230 235 240
Val Lys Val Ser Asp Lys Val Gln Leu Val Gly Leu Gly Glu Thr Lys
245 250 255
Glu Thr Ile Val Thr Gly Val Glu Met Phe Arg Lys Glu Leu Pro Glu
260 265 270
Gly Arg Ala Gly Glu Asn Val Gly Leu Leu Leu Arg Gly Ile Gly Lys
275 280 285
Asn Asp Val Glu Arg Gly Met Val Val Cys Gln Pro Asn Ser Val Lys
290 295 300
Pro His Thr Lys Phe Lys Ser Ala Val Tyr Val Leu Gln Lys Glu Glu
305 310 315 320
Gly Gly Arg His Lys Pro Phe Phe Ser Gly Tyr Arg Pro Gln Phe Phe
325 330 335
Phe Arg Thr Thr Asp Val Thr Gly Val Val Thr Leu Pro Glu Gly Thr
340 345 350

Glu Met Val Met Pro Gly Asp Asn Val Glu Leu Asp Val Glu Leu Ile
 355 360 365
 Gly Thr Val Ala Leu Glu Glu Gly Met Arg Phe Ala Ile Arg Glu Gly
 370 375 380
 Gly Arg Thr Ile Gly Ala Gly Thr Ile Ser Lys Ile Asn Ala
 385 390 395

<210> 77
 <211> 88
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0075

<400> 77
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 Arg Lys Ile Gly Thr Val Lys Lys Gln Ala Lys Phe Ala Gly Ser Phe
 20 25 30
 Leu Asp Glu Ile Lys Lys Ile Glu Trp Val Ser Lys His Asp Leu Lys
 35 40 45
 Lys Tyr Ile Lys Val Val Leu Ile Ser Ile Phe Gly Phe Gly Phe Ala
 50 55 60
 Ile Tyr Phe Val Asp Leu Val Leu Arg Lys Ser Ile Thr Cys Leu Asp
 65 70 75 80
 Gly Ile Thr Thr Phe Leu Phe Gly
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<210> 78
 <211> 190
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0076

<400> 78
 Gln Pro Phe Cys Ser Val Asn Cys Met Tyr Lys Trp Tyr Val Val Gln
 1 5 10 15
 Val Phe Thr Ala Gln Glu Lys Lys Val Lys Lys Ala Leu Glu Asp Phe
 20 25 30
 Lys Glu Ser Ser Gly Met Thr Asp Phe Ile Gln Glu Ile Ile Leu Pro
 35 40 45
 Ile Glu Asn Val Met Glu Val Lys Lys Gly Glu His Lys Val Val Glu
 50 55 60
 Lys Tyr Ile Trp Pro Gly Tyr Leu Leu Val Lys Met His Leu Thr Asp
 65 70 75 80
 Glu Ser Trp Leu Tyr Val Lys Ser Thr Ala Gly Ile Val Glu Phe Leu
 85 90 95
 Gly Gly Gly Val Pro Val Ala Leu Ser Glu Asp Glu Val Arg Ser Ile
 100 105 110
 Leu Thr Asp Ile Glu Glu Lys Lys Ser Gly Val Val Gln Lys His Gln
 115 120 125
 Phe Glu Val Gly Ser Arg Val Lys Ile Asn Asp Gly Val Phe Val Asn
 130 135 140
 Phe Ile Gly Met Val Ser Glu Val Phe His Asp Lys Gly Arg Leu Ser
 145 150 155 160
 Val Met Val Ser Ile Phe Gly Arg Glu Thr Arg Val Asp Asp Leu Glu
 165 170 175

Phe Trp Gln Val Glu Glu Val Ala Pro Gly Gln Glu Ser Glu
180 185 190

<210> 79
<211> 160
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0077

<400> 79
Phe Phe Val Ser Tyr Pro Leu Phe Val Glu Val Ser Gln Cys Lys Val
1 5 10 15
Arg Phe Ser Met Ser Val Lys Lys Val Ile Lys Ile Ile Lys Leu Gln
20 25 30
Ile Pro Gly Gly Lys Ala Asn Pro Ala Pro Pro Ile Gly Pro Ala Leu
35 40 45
Gly Ala Ala Gly Val Asn Ile Met Gly Phe Cys Lys Glu Phe Asn Ala
50 55 60
Ala Thr Gln Asp Lys Pro Gly Asp Leu Leu Pro Val Val Ile Thr Val
65 70 75 80
Tyr Ala Asp Lys Thr Phe Thr Phe Ile Thr Lys Gln Pro Pro Val Ser
85 90 95
Ser Leu Ile Lys Lys Thr Leu Asn Leu Glu Ser Gly Ser Lys Ile Pro
100 105 110
Asn Arg Asn Lys Val Gly Lys Leu Thr Gln Ala Gln Val Glu Ala Ile
115 120 125
Ala Glu Gln Lys Met Lys Asp Met Asp Ile Val Leu Leu Glu Ser Ala
130 135 140
Lys Arg Met Val Glu Gly Thr Ala Arg Ser Met Gly Ile Asp Val Glu
145 150 155 160

<210> 80
<211> 236
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0078

<400> 80
Ser Cys Arg Ile Met Thr Lys His Gly Lys Arg Ile Arg Gly Ile Leu
1 5 10 15
Lys Asn Tyr Asp Phe Ser Lys Ser Tyr Ser Leu Arg Glu Ala Ile Asp
20 25 30
Ile Leu Lys Gln Cys Pro Pro Val Arg Phe Asp Gln Thr Val Asp Val
35 40 45
Ser Ile Lys Leu Gly Ile Asp Pro Lys Lys Ser Asp Gln Gln Ile Arg
50 55 60
Gly Ala Val Phe Leu Pro Asn Gly Thr Gly Lys Thr Leu Arg Ile Leu
65 70 75 80
Val Phe Ala Ser Gly Asn Lys Val Lys Glu Ala Val Glu Ala Gly Ala
85 90 95
Asp Phe Met Gly Ser Asp Asp Leu Val Glu Lys Ile Lys Ser Gly Trp
100 105 110
Leu Glu Phe Asp Val Ala Val Ala Thr Pro Asp Met Met Arg Glu Val
115 120 125
Gly Lys Leu Gly Lys Val Leu Gly Pro Arg Asn Leu Met Pro Thr Pro
130 135 140

Lys	Thr	Gly	Thr	Val	Thr	Thr	Asp	Val	Ala	Lys	Ala	Ile	Ser	Glu	Leu
145					150					155				160	
Arg	Lys	Gly	Lys	Ile	Glu	Phe	Lys	Ala	Asp	Arg	Ala	Gly	Val	Cys	Asn
				165					170					175	
Val	Gly	Val	Gly	Lys	Leu	Ser	Phe	Glu	Ser	Ser	Gln	Ile	Lys	Glu	Asn
			180					185					190		
Ile	Glu	Ala	Leu	Ser	Ser	Ala	Leu	Ile	Lys	Ala	Lys	Pro	Pro	Ala	Ala
		195					200					205			
Lys	Gly	Gln	Tyr	Leu	Val	Ser	Phe	Thr	Ile	Ser	Ser	Thr	Met	Gly	Pro
	210					215					220				
Gly	Ile	Ser	Ile	Asp	Thr	Arg	Glu	Leu	Met	Ala	Ser				
225					230					235					

<210> 81
 <211> 173
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0079

Arg	Gly	Lys	Met	Lys	Gln	Glu	Lys	Thr	Leu	Leu	Leu	Gln	Glu	Val	Glu
1				5					10					15	
Asp	Lys	Ile	Ser	Ala	Ala	Gln	Gly	Phe	Ile	Leu	Leu	Arg	Tyr	Leu	Arg
			20					25					30		
Phe	Thr	Ala	Ala	Tyr	Ser	Arg	Glu	Phe	Arg	Asn	Ser	Leu	Ser	Gly	Val
		35					40					45			
Ser	Ala	Glu	Phe	Glu	Val	Leu	Lys	Lys	Arg	Ile	Phe	Phe	Lys	Ala	Ile
		50				55					60				
Glu	Ala	Ala	Gly	Leu	Glu	Val	Asp	Cys	Ser	Asp	Thr	Asp	Gly	His	Leu
65					70					75				80	
Gly	Val	Val	Phe	Ser	Cys	Gly	Asp	Pro	Val	Ser	Ala	Ala	Lys	Gln	Val
				85					90					95	
Leu	Asp	Phe	Asn	Lys	Gln	His	Lys	Asp	Ser	Leu	Val	Phe	Leu	Ala	Gly
			100					105					110		
Arg	Met	Asp	Asn	Ala	Ser	Leu	Ser	Gly	Ala	Glu	Val	Glu	Ala	Val	Ala
		115					120					125			
Lys	Leu	Pro	Ser	Leu	Lys	Glu	Leu	Arg	Gln	Gln	Val	Val	Gly	Leu	Phe
	130					135					140				
Ala	Ala	Pro	Met	Ser	Gln	Val	Val	Gly	Ile	Met	Asn	Ser	Val	Leu	Ser
145					150					155					160
Gly	Val	Ile	Ser	Cys	Val	Asp	Gln	Lys	Ala	Gly	Lys	Asn			
				165					170						

<210> 82
 <211> 134
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0080

Val	Arg	Val	Thr	Lys	Val	Thr	Thr	Glu	Ser	Leu	Glu	Thr	Leu	Val	Glu
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Lys	Leu	Ser	Asn	Leu	Thr	Val	Leu	Glu	Leu	Ser	Gln	Leu	Lys	Lys	Leu
			20					25					30		
Leu	Glu	Glu	Lys	Trp	Asp	Val	Thr	Ala	Ser	Ala	Pro	Val	Val	Ala	Val
		35					40						45		

Ala Ala Gly Gly Gly Gly Glu Ala Pro Val Ala Ala Glu Pro Thr Glu
50 55 60
Phe Ala Val Thr Leu Glu Asp Val Pro Ala Asp Lys Lys Ile Gly Val
65 70 75 80
Leu Lys Val Val Arg Glu Val Thr Gly Leu Ala Leu Lys Glu Ala Lys
85 90 95
Glu Met Thr Glu Gly Leu Pro Lys Thr Val Lys Glu Lys Thr Ser Lys
100 105 110
Ser Asp Ala Glu Asp Thr Val Lys Lys Leu Gln Asp Ala Gly Ala Lys
115 120 125
Ala Ser Phe Lys Gly Leu
130

<210> 83
<211> 1266
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0081

<400> 83
Phe Arg Glu Ile Leu Ser His Gln Asn Ser Arg Arg Thr Arg Met Leu
1 5 10 15
Lys Cys Pro Glu Arg Val Ser Val Lys Lys Lys Glu Asp Ile Pro Asp
20 25 30
Leu Pro Asn Leu Ile Glu Ile Gln Ile Lys Ser Tyr Lys Gln Phe Leu
35 40 45
Gln Ile Gly Lys Leu Ala Glu Glu Arg Glu Asn Ile Gly Leu Glu Glu
50 55 60
Val Phe Arg Glu Ile Phe Pro Ile Lys Ser Tyr Asn Glu Ala Thr Val
65 70 75 80
Leu Glu Tyr Leu Ser Tyr Asn Leu Gly Val Pro Lys Tyr Ser Pro Glu
85 90 95
Glu Cys Ile Arg Arg Gly Ile Thr Tyr Ser Val Thr Leu Lys Val Arg
100 105 110
Phe Arg Leu Thr Asp Glu Thr Gly Ile Lys Glu Glu Glu Val Tyr Met
115 120 125
Gly Thr Ile Pro Leu Met Thr Asp Lys Gly Thr Phe Ile Ile Asn Gly
130 135 140
Ala Glu Arg Val Val Val Ser Gln Val His Arg Ser Pro Gly Ile Asn
145 150 155 160
Phe Glu Gln Glu Lys His Ser Lys Gly Asn Ile Leu Phe Ser Phe Arg
165 170 175
Ile Ile Pro Tyr Arg Gly Ser Trp Leu Glu Ala Ile Phe Asp Ile Asn
180 185 190
Asp Leu Ile Tyr Ile His Ile Asp Arg Lys Lys Arg Arg Arg Lys Ile
195 200 205
Leu Ala Ile Thr Phe Ile Arg Ala Leu Gly Tyr Ser Ser Asp Ala Asp
210 215 220
Ile Ile Glu Glu Phe Phe Thr Ile Gly Glu Ser Ser Leu Arg Ser Glu
225 230 235 240
Lys Asp Phe Ala Leu Leu Val Gly Arg Ile Leu Ala Asp Asn Ile Ile
245 250 255
Asp Glu Ala Ser Ser Leu Val Tyr Gly Lys Ala Gly Glu Lys Leu Ser
260 265 270
Thr Ala Met Leu Lys Arg Met Leu Asp Ala Gly Ile Ala Ser Val Lys
275 280 285
Ile Ala Val Asp Ala Asp Glu Asn His Pro Ile Ile Lys Met Leu Ala
290 295 300

Lys	Asp	Pro	Thr	Asp	Ser	Tyr	Glu	Ala	Ala	Leu	Lys	Asp	Phe	Tyr	Arg
305					310					315					320
Arg	Leu	Arg	Pro	Gly	Glu	Pro	Ala	Thr	Leu	Ala	Asn	Ala	Arg	Ser	Thr
				325					330					335	
Ile	Met	Arg	Leu	Phe	Phe	Asp	Pro	Lys	Arg	Tyr	Asn	Leu	Gly	Arg	Val
			340					345					350		
Gly	Arg	Tyr	Lys	Leu	Asn	Arg	Lys	Leu	Gly	Phe	Ser	Ile	Asp	Asp	Glu
		355				360					365				
Ala	Leu	Ser	Gln	Val	Thr	Leu	Arg	Lys	Glu	Asp	Val	Ile	Gly	Ala	Leu
	370					375					380				
Lys	Tyr	Leu	Ile	Arg	Leu	Lys	Met	Gly	Asp	Glu	Lys	Ala	Cys	Val	Asp
385					390					395					400
Asp	Ile	Asp	His	Leu	Ala	Asn	Arg	Arg	Val	Arg	Ser	Val	Gly	Glu	Leu
				405					410					415	
Ile	Gln	Asn	Gln	Cys	Arg	Ser	Gly	Leu	Ala	Arg	Met	Glu	Lys	Ile	Val
		420						425					430		
Arg	Glu	Arg	Met	Asn	Leu	Phe	Asp	Phe	Ser	Ser	Asp	Thr	Leu	Thr	Pro
		435					440					445			
Gly	Lys	Val	Val	Ser	Ala	Lys	Gly	Leu	Ala	Ser	Val	Leu	Lys	Asp	Phe
	450					455					460				
Phe	Gly	Arg	Ser	Gln	Leu	Ser	Gln	Phe	Met	Asp	Gln	Thr	Asn	Pro	Val
465					470					475				480	
Ala	Glu	Leu	Thr	His	Lys	Arg	Arg	Leu	Ser	Ala	Leu	Gly	Pro	Gly	Gly
				485					490					495	
Leu	Asn	Arg	Glu	Arg	Ala	Gly	Phe	Glu	Val	Arg	Asp	Val	His	Ala	Ser
		500						505					510		
His	Tyr	Gly	Arg	Ile	Cys	Pro	Ile	Glu	Thr	Pro	Glu	Gly	Pro	Asn	Ile
		515					520					525			
Gly	Leu	Ile	Thr	Ser	Leu	Ser	Ser	Phe	Ala	Lys	Ile	Asn	Glu	Phe	Gly
	530					535					540				
Phe	Ile	Glu	Thr	Pro	Tyr	Arg	Ile	Val	Arg	Asp	Gly	Ile	Val	Thr	Asp
545					550					555				560	
Glu	Ile	Glu	Tyr	Met	Thr	Ala	Asp	Val	Glu	Glu	Glu	Cys	Val	Ile	Ala
				565					570					575	
Gln	Ala	Ser	Ala	Ser	Leu	Asp	Glu	Tyr	Asn	Met	Phe	Thr	Glu	Pro	Val
			580					585					590		
Cys	Trp	Val	Arg	Tyr	Ala	Gly	Glu	Ala	Phe	Glu	Ala	Asp	Thr	Ser	Thr
	595						600					605			
Val	Thr	His	Met	Asp	Val	Ser	Pro	Lys	Gln	Leu	Val	Ser	Ile	Val	Thr
	610					615					620				
Gly	Leu	Ile	Pro	Phe	Leu	Glu	His	Asp	Asp	Ala	Asn	Arg	Ala	Leu	Met
625					630					635				640	
Gly	Ser	Asn	Met	Gln	Arg	Gln	Ala	Val	Pro	Leu	Leu	Lys	Thr	Glu	Ala
				645					650					655	
Pro	Val	Val	Gly	Thr	Gly	Leu	Glu	Cys	Arg	Ala	Ala	Lys	Asp	Ser	Gly
			660					665					670		
Ala	Ile	Val	Val	Ala	Glu	Glu	Asp	Gly	Val	Val	Asp	Phe	Val	Asp	Gly
	675						680					685			
Tyr	Lys	Val	Val	Val	Ala	Ala	Lys	His	Asn	Pro	Thr	Ile	Lys	Arg	Thr
	690					695					700				
Tyr	His	Leu	Lys	Lys	Phe	Leu	Arg	Ser	Asn	Ser	Gly	Thr	Cys	Ile	Asn
705					710					715				720	
Gln	Gln	Pro	Leu	Cys	Ala	Val	Gly	Asp	Val	Ile	Thr	Lys	Gly	Asp	Val
				725					730					735	
Ile	Ala	Asp	Gly	Pro	Ala	Thr	Asp	Arg	Gly	Glu	Leu	Ala	Leu	Gly	Lys
			740					745					750		
Asn	Val	Leu	Val	Ala	Phe	Met	Pro	Trp	Tyr	Gly	Tyr	Asn	Phe	Glu	Asp
	755						760					765			
Ala	Ile	Ile	Ile	Ser	Glu	Lys	Leu	Ile	Arg	Glu	Asp	Ala	Tyr	Thr	Ser
	770					775					780				

Ile Tyr Ile Glu Glu Phe Glu Leu Thr Ala Arg Asp Thr Lys Leu Gly
 785 790 795 800
 Lys Glu Glu Ile Thr Arg Asp Ile Pro Asn Val Ser Asp Glu Val Leu
 805 810 815
 Ala Asn Leu Gly Glu Asp Gly Ile Ile Arg Ile Gly Ala Glu Val Lys
 820 825 830
 Pro Gly Asp Ile Leu Val Gly Lys Ile Thr Pro Lys Ser Glu Thr Glu
 835 840 845
 Leu Ala Pro Glu Glu Arg Leu Leu Arg Ala Ile Phe Gly Glu Lys Ala
 850 855 860
 Ala Asp Val Lys Asp Ala Ser Leu Thr Val Pro Pro Gly Thr Glu Gly
 865 870 875 880
 Val Val Met Asp Val Lys Val Phe Ser Arg Lys Asp Arg Leu Ser Lys
 885 890 895
 Ser Asp Asp Glu Leu Val Glu Glu Ala Val His Leu Lys Asp Leu Gln
 900 905 910
 Lys Gly Tyr Lys Asn Gln Val Ala Thr Leu Lys Thr Glu Tyr Arg Glu
 915 920 925
 Lys Leu Gly Ala Leu Leu Leu Asn Glu Lys Ala Pro Ala Ala Ile Ile
 930 935 940
 His Arg Arg Thr Ala Glu Ile Val Val His Glu Gly Leu Leu Phe Asp
 945 950 955 960
 Gln Glu Thr Ile Glu Arg Ile Glu Gln Glu Asp Leu Val Asp Leu Leu
 965 970 975
 Met Pro Asn Cys Glu Met Tyr Glu Val Leu Lys Gly Leu Leu Ser Asp
 980 985 990
 Tyr Glu Thr Ala Leu Gln Arg Leu Glu Ile Asn Tyr Lys Thr Glu Val
 995 1000 1005
 Glu His Ile Arg Glu Gly Asp Ala Asp Leu Asp His Gly Val Ile Arg
 1010 1015 1020
 Gln Val Lys Val Tyr Val Ala Ser Lys Arg Lys Leu Gln Val Gly Asp
 1025 1030 1035 1040
 Lys Met Ala Gly Arg His Gly Asn Lys Gly Val Val Ser Lys Ile Val
 1045 1050 1055
 Pro Glu Ala Asp Met Pro Tyr Leu Ser Asn Gly Glu Thr Val Gln Met
 1060 1065 1070
 Ile Leu Asn Pro Leu Gly Val Pro Ser Arg Met Asn Leu Gly Gln Val
 1075 1080 1085
 Leu Glu Thr His Leu Gly Tyr Ala Ala Lys Thr Ala Gly Ile Tyr Val
 1090 1095 1100
 Lys Thr Pro Val Phe Glu Gly Phe Pro Glu Gln Arg Ile Trp Asp Met
 1105 1110 1115 1120
 Met Ile Glu Gln Gly Leu Pro Glu Asp Gly Lys Ser Phe Leu Tyr Asp
 1125 1130 1135
 Gly Lys Thr Gly Glu Arg Phe Asp Asn Lys Val Val Ile Gly Tyr Ile
 1140 1145 1150
 Tyr Met Leu Lys Leu Ser His Leu Ile Ala Asp Lys Ile His Ala Arg
 1155 1160 1165
 Ser Ile Gly Pro Tyr Ser Leu Val Thr Gln Gln Pro Leu Gly Gly Lys
 1170 1175 1180
 Ala Gln Met Gly Gly Gln Arg Phe Gly Glu Met Glu Val Trp Ala Leu
 1185 1190 1195 1200
 Glu Ala Tyr Gly Val Ala His Met Leu Gln Glu Ile Leu Thr Val Lys
 1205 1210 1215
 Ser Asp Asp Val Ser Gly Arg Thr Arg Ile Tyr Glu Ser Ile Val Lys
 1220 1225 1230
 Gly Glu Asn Leu Leu Arg Ser Gly Thr Pro Glu Ser Phe Asn Val Leu
 1235 1240 1245
 Ile Lys Glu Met Gln Gly Leu Gly Leu Asp Val Arg Pro Met Val Val
 1250 1255 1260

Asp Ala
1265

<210> 84
<211> 1410
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0082

<400> 84
Cys Ser Ser Tyr Gly Arg Arg Arg Leu Lys Asn Asp Val Leu Glu Lys
1 5 10 15
Ile Met Phe Gly Glu Asn Ser Arg Asp Ile Gly Val Leu Ser Lys Glu
20 25 30
Gly Leu Phe Asp Lys Leu Glu Ile Gly Ile Ala Ser Asp Ile Thr Ile
35 40 45
Arg Asp Lys Trp Ser Cys Gly Glu Ile Lys Lys Pro Glu Thr Ile Asn
50 55 60
Tyr Arg Thr Phe Lys Pro Glu Lys Gly Gly Leu Phe Cys Glu Lys Ile
65 70 75 80
Phe Gly Pro Thr Lys Asp Trp Glu Cys Cys Cys Gly Lys Tyr Lys Lys
85 90 95
Ile Lys His Lys Gly Ile Val Cys Asp Arg Cys Gly Val Glu Val Thr
100 105 110
Leu Ser Lys Val Arg Arg Glu Arg Met Ala His Ile Glu Leu Ala Val
115 120 125
Pro Ile Val His Ile Trp Phe Phe Lys Thr Thr Pro Ser Arg Ile Gly
130 135 140
Asn Val Leu Gly Met Thr Ala Ser Asp Leu Glu Arg Val Ile Tyr Tyr
145 150 155 160
Glu Glu Tyr Val Val Ile Asp Pro Gly Lys Thr Asp Leu Thr Lys Lys
165 170 175
Gln Leu Leu Asn Asp Ala Gln Tyr Arg Glu Val Val Glu Lys Trp Gly
180 185 190
Lys Asp Ala Phe Val Ala Lys Met Gly Gly Glu Ala Ile Tyr Asp Leu
195 200 205
Leu Lys Ser Glu Asp Leu Gln Ser Leu Leu Lys Asp Leu Lys Glu Arg
210 215 220
Leu Arg Lys Thr Lys Ser Gln Gln Ala Arg Met Lys Leu Ala Lys Arg
225 230 235 240
Leu Lys Ile Ile Glu Gly Phe Val Ser Ser Ser Asn His Pro Glu Trp
245 250 255
Met Val Leu Lys Asn Ile Pro Val Val Pro Pro Asp Leu Arg Pro Leu
260 265 270
Val Pro Leu Asp Gly Gly Arg Phe Ala Thr Ser Asp Leu Asn Asp Leu
275 280 285
Tyr Arg Arg Val Ile Asn Arg Asn Arg Leu Lys Ala Ile Leu Arg
290 295 300
Leu Lys Thr Pro Glu Val Ile Val Arg Asn Glu Lys Arg Met Leu Gln
305 310 315 320
Glu Ala Val Asp Ala Leu Phe Asp Asn Gly Arg His Gly His Pro Val
325 330 335
Met Gly Ala Gly Asn Arg Pro Leu Lys Ser Leu Ser Glu Met Leu Lys
340 345 350
Gly Lys Asn Gly Arg Phe Arg Gln Asn Leu Leu Gly Lys Arg Val Asp
355 360 365
Tyr Ser Gly Arg Ser Val Ile Ile Val Gly Pro Glu Leu Lys Phe Asn
370 375 380

Gln	Cys	Gly	Leu	Pro	Lys	Glu	Met	Ala	Leu	Glu	Leu	Phe	Glu	Pro	Phe	385	390	395	400
Ile	Ile	Lys	Arg	Leu	Lys	Asp	Gln	Gly	Ser	Val	Tyr	Thr	Ile	Arg	Ser	405	410	415	
Ala	Lys	Lys	Met	Ile	Gln	Arg	Gly	Ala	Pro	Glu	Val	Trp	Asp	Val	Leu	420	425	430	
Glu	Glu	Ile	Ile	Lys	Gly	His	Pro	Val	Leu	Leu	Asn	Arg	Ala	Pro	Thr	435	440	445	
Leu	His	Arg	Leu	Gly	Ile	Gln	Ala	Phe	Glu	Pro	Val	Leu	Ile	Glu	Gly	450	455	460	
Lys	Ala	Ile	Arg	Ile	His	Pro	Leu	Val	Cys	Ala	Ala	Phe	Asn	Ala	Asp	465	470	475	480
Phe	Asp	Gly	Asp	Gln	Met	Ala	Val	His	Val	Pro	Leu	Ser	Val	Glu	Ala	485	490	495	
Gln	Leu	Glu	Ala	Lys	Val	Leu	Met	Met	Ala	Pro	Asp	Asn	Ile	Phe	Leu	500	505	510	
Pro	Ser	Ser	Gly	Lys	Pro	Val	Ala	Ile	Pro	Ser	Lys	Asp	Met	Thr	Leu	515	520	525	
Gly	Leu	Tyr	Tyr	Leu	Met	Ala	Asp	Pro	Thr	Tyr	Phe	Pro	Glu	Glu	His	530	535	540	
Gly	Gly	Lys	Thr	Lys	Ile	Phe	Lys	Asp	Glu	Ile	Glu	Val	Leu	Arg	Ala	545	550	555	560
Leu	Asn	Asn	Gly	Gly	Phe	Ile	Asp	Asp	Val	Phe	Gly	Asp	Arg	Arg	Asp	565	570	575	
Glu	Thr	Gly	Arg	Gly	Ile	His	Ile	His	Glu	Lys	Ile	Lys	Val	Arg	Ile	580	585	590	
Asp	Gly	Gln	Ile	Ile	Glu	Thr	Thr	Pro	Gly	Arg	Val	Leu	Phe	Asn	Arg	595	600	605	
Ile	Val	Pro	Lys	Glu	Leu	Gly	Phe	Gln	Asn	Tyr	Ser	Met	Pro	Ser	Lys	610	615	620	
Arg	Ile	Ser	Glu	Leu	Ile	Leu	Gln	Cys	Tyr	Lys	Lys	Val	Gly	Leu	Glu	625	630	635	640
Ala	Thr	Val	Arg	Phe	Leu	Asp	Asp	Leu	Lys	Asp	Leu	Gly	Phe	Ile	Gln	645	650	655	
Ala	Thr	Lys	Ala	Ala	Ile	Ser	Met	Gly	Leu	Lys	Asp	Val	Arg	Ile	Pro	660	665	670	
Asp	Ile	Lys	Ser	His	Ile	Leu	Lys	Asp	Ala	Tyr	Asp	Lys	Val	Ala	Ile	675	680	685	
Val	Lys	Lys	Gln	Tyr	Asp	Asp	Gly	Ile	Ile	Thr	Glu	Gly	Glu	Arg	His	690	695	700	
Ser	Lys	Thr	Ile	Ser	Ile	Trp	Thr	Glu	Val	Ser	Glu	Gln	Leu	Ser	Asp	705	710	715	720
Ala	Leu	Tyr	Val	Glu	Ile	Ser	Lys	Gln	Thr	Arg	Ser	Lys	His	Asn	Pro	725	730	735	
Leu	Phe	Leu	Met	Ile	Asp	Ser	Gly	Ala	Arg	Gly	Asn	Lys	Ser	Gln	Leu	740	745	750	
Lys	Gln	Leu	Gly	Ala	Leu	Arg	Gly	Leu	Met	Ala	Lys	Pro	Asn	Gly	Ala	755	760	765	
Ile	Ile	Glu	Ser	Pro	Ile	Thr	Ser	Asn	Phe	Arg	Glu	Gly	Leu	Thr	Val	770	775	780	
Leu	Glu	Tyr	Ser	Ile	Ser	Ser	His	Gly	Ala	Arg	Lys	Gly	Leu	Ala	Asp	785	790	795	800
Thr	Ala	Leu	Lys	Thr	Ala	Asp	Ser	Gly	Tyr	Leu	Thr	Arg	Arg	Leu	Val	805	810	815	
Asp	Val	Ala	Gln	Asp	Val	Ile	Ile	Thr	Glu	Lys	Asp	Cys	Gly	Thr	Leu	820	825	830	
Asn	His	Ile	Glu	Ile	Ser	Ala	Ile	Gly	Gln	Gly	Ser	Glu	Glu	Leu	Leu	835	840	845	
Pro	Leu	Lys	Asp	Arg	Ile	Tyr	Gly	Arg	Thr	Val	Ala	Glu	Asp	Val	Tyr	850	855	860	

Gln Pro Gly Asp Lys Ser Arg Leu Leu Ala Gln Ser Gly Asp Val Leu
 865 870 875 880
 Asn Ser Val Gln Ala Glu Ala Ile Asp Asp Ala Gly Ile Glu Thr Ile
 885 890 895
 Lys Ile Arg Ser Thr Leu Thr Cys Glu Ser Pro Arg Gly Val Cys Ala
 900 905 910
 Lys Cys Tyr Gly Leu Asn Leu Ala Asn Gly Arg Leu Ile Gly Met Gly
 915 920 925
 Glu Ala Val Gly Ile Ile Ala Ala Gln Ser Ile Gly Glu Pro Gly Thr
 930 935 940
 Gln Leu Thr Met Arg Thr Phe His Leu Gly Gly Ile Ala Ala Thr Ser
 945 950 955 960
 Ser Thr Pro Glu Ile Ile Thr Asn Ser Asp Gly Ile Leu Val Tyr Met
 965 970 975
 Asp Leu Arg Val Val Leu Gly Gln Glu Gly His Asn Leu Val Leu Asn
 980 985 990
 Lys Lys Gly Ala Leu His Val Val Gly Asp Glu Gly Arg Thr Leu Asn
 995 1000 1005
 Glu Tyr Lys Lys Leu Leu Ser Thr Lys Ser Ile Glu Ser Leu Glu Val
 1010 1015 1020
 Phe Pro Val Glu Leu Gly Val Lys Ile Leu Val Ala Asp Gly Thr Pro
 1025 1030 1035 1040
 Val Ser Gln Gly Gln Arg Ile Gly Glu Val Glu Leu His Asn Ile Pro
 1045 1050 1055
 Ile Ile Cys Asp Lys Pro Gly Phe Ile Lys Tyr Glu Asp Leu Val Glu
 1060 1065 1070
 Gly Ile Ser Thr Glu Lys Val Val Asn Lys Asn Thr Gly Leu Val Glu
 1075 1080 1085
 Leu Ile Val Lys Gln His Arg Gly Glu Leu His Pro Gln Ile Ala Ile
 1090 1095 1100
 Tyr Asp Asp Ala Asp Leu Ser Glu Leu Val Gly Thr Tyr Ala Ile Pro
 1105 1110 1115 1120
 Ser Gly Ala Ile Ile Ser Val Glu Glu Gly Gln Arg Val Asp Pro Gly
 1125 1130 1135
 Met Leu Leu Ala Arg Leu Pro Arg Gly Ala Ile Lys Thr Lys Asp Ile
 1140 1145 1150
 Thr Gly Gly Leu Pro Arg Val Ala Glu Leu Val Glu Ala Arg Lys Pro
 1155 1160 1165
 Glu Asp Ala Ala Asp Ile Ala Lys Ile Asp Gly Val Val Asp Phe Lys
 1170 1175 1180
 Gly Ile Gln Lys Asn Lys Arg Ile Leu Val Val Cys Asp Glu Met Thr
 1185 1190 1195 1200
 Gly Met Glu Glu Glu His Leu Ile Pro Leu Thr Lys His Leu Ile Val
 1205 1210 1215
 Gln Arg Gly Asp Ser Val Ile Lys Gly Gln Gln Leu Thr Asp Gly Leu
 1220 1225 1230
 Val Val Pro His Glu Ile Leu Glu Ile Cys Gly Val Arg Glu Leu Gln
 1235 1240 1245
 Lys Tyr Leu Val Asn Glu Val Gln Glu Val Tyr Arg Leu Gln Gly Val
 1250 1255 1260
 Asp Ile Asn Asp Lys His Ile Glu Ile Ile Val Arg Gln Met Leu Gln
 1265 1270 1275 1280
 Lys Val Arg Ile Thr Asp Pro Gly Asp Thr Thr Leu Leu Phe Gly Glu
 1285 1290 1295
 Asp Val Asn Lys Lys Glu Phe Tyr Glu Glu Asn Arg Arg Thr Glu Glu
 1300 1305 1310
 Asp Gly Gly Lys Pro Ala Gln Ala Val Pro Val Leu Leu Gly Ile Thr
 1315 1320 1325
 Lys Ala Ser Leu Gly Thr Glu Ser Phe Ile Ser Ala Ala Ser Phe Gln
 1330 1335 1340

Asp Thr Thr Arg Val Leu Thr Asp Ala Ala Cys Cys Ser Lys Thr Asp
 1345 1350 1355 1360
 Tyr Leu Leu Gly Phe Lys Glu Asn Val Ile Met Gly His Met Ile Pro
 1365 1370 1375
 Gly Gly Thr Gly Phe Glu Thr His Lys Arg Ile Lys Gln Tyr Leu Glu
 1380 1385 1390
 Lys Glu Gln Glu Asp Leu Val Phe Asp Phe Val Ser Glu Thr Glu Cys
 1395 1400 1405
 Val Cys
 1410

<210> 85
 <211> 339
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0083

<400> 85
 Arg Cys Leu Glu Ile Asn Ser Asp Ala Lys Val Pro Met Ser Asn Gln
 1 5 10 15
 Phe Asp Gln Leu Lys Lys Leu Ser Thr Ile Val Cys Asp Ser Gly Asp
 20 25 30
 Pro Glu Leu Val Lys Ala Ser Gly Ser Gln Asp Ala Thr Asn Pro
 35 40 45
 Ser Leu Ile Leu Lys Val Ala Gln Glu Pro Lys Phe Gln Glu Leu Leu
 50 55 60
 Asn Glu Ala Val Val Trp Gly Ile Arg Gln Asn Gly Asp Asp Leu Gln
 65 70 75 80
 Thr Leu Ser Phe Ile Leu Asp Lys Ile Gln Val Asn Phe Ala Leu Glu
 85 90 95
 Ile Ile Lys Asn Ile Pro Gly Arg Ile Ser Leu Glu Ile Asp Ala Arg
 100 105 110
 Leu Ser Phe Asn Val Glu Ala Met Val Gln Arg Ala Val Phe Leu Ser
 115 120 125
 Gln Leu Phe Glu Ala Met Gly Gly Asp Lys Lys Arg Leu Leu Val Lys
 130 135 140
 Ile Pro Gly Thr Trp Glu Gly Ile Arg Ala Val Glu Phe Leu Glu Ala
 145 150 155 160
 Lys Gly Ile Ala Cys Asn Val Thr Leu Ile Phe Asn Leu Val Gln Ala
 165 170 175
 Ile Ala Ala Ala Lys Ala Lys Ala Thr Leu Ile Ser Pro Phe Val Gly
 180 185 190
 Arg Ile Tyr Asp Trp Trp Ile Ala Ala Tyr Gly Asp Glu Gly Tyr Ser
 195 200 205
 Ile Asp Ala Asp Pro Gly Val Ala Ser Val Ser Asn Ile Tyr Ala Tyr
 210 215 220
 Tyr Lys Lys Phe Gly Ile Pro Thr Gln Ile Met Ala Ala Ser Phe Arg
 225 230 235 240
 Thr Lys Glu Gln Val Leu Ala Leu Ala Gly Cys Asp Leu Leu Thr Ile
 245 250 255
 Ser Pro Lys Leu Leu Asp Glu Leu Lys Lys Ser Gln His Pro Val Lys
 260 265 270
 Lys Glu Leu Asp Pro Ala Glu Ala Lys Lys Leu Asp Val Gln Pro Ile
 275 280 285
 Glu Leu Thr Glu Ser Phe Phe Arg Phe Leu Met Asn Glu Asp Ala Met
 290 295 300
 Ala Thr Glu Lys Leu Ala Glu Gly Ile Arg Ile Phe Ala Gly Asp Thr
 305 310 315 320

Gln Ile Leu Glu Thr Ala Ile Thr Glu Phe Ile Lys Gln Ile Ala Ala
325 330 335
Glu Gly Ala

<210> 86
<211> 132
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0084

<400> 86
Ser Glu Met Lys Asn Lys Met Asp Tyr Lys Ser Gln Leu Val Phe Ser
1 5 10 15
Cys Pro Cys Cys Cys Lys Gly Asn Val Cys Phe Ser Val Phe Asn Leu
20 25 30
Asp Val Ile Leu Thr Cys Asn Val Cys Ser Ser Thr Tyr Thr Phe Asp
35 40 45
Ser Val Ile Arg Asn Glu Ile Arg Gln Phe Val Ala Leu Cys Lys Arg
50 55 60
Ile His Asp Ala Asn Ser Ile Leu Gly Asn Ala Thr Val Ser Val Ser
65 70 75 80
Val Glu Asp Asn Gln Met Asp Ile Pro Phe Gln Leu Leu Phe Ser Arg
85 90 95
Phe Pro Val Val Leu Asn Leu Ser Leu Asp Gly Lys Lys Ile Ala Ile
100 105 110
Arg Phe Leu Phe Asp Ala Leu Asn Thr Ser Ile Leu His Gln Glu Ser
115 120 125
Asp Leu Ile Ser
130

<210> 87
<211> 249
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0085

<400> 87
Phe Ser Met Lys Phe Phe Ile Leu Phe Ile Leu Ile Val Ala Gln Phe
1 5 10 15
Pro Ala Phe Ser Ala Gln Pro Arg Thr Gln Val Ser Ala Ser His Ser
20 25 30
Lys Gln Ala Lys Ala Arg Arg Thr Ser Arg Ile Arg Ser Ser Ala Ala
35 40 45
Thr Asn Ala Ser Val Ser Arg Tyr Lys Thr Arg Ala Ala Arg Lys
50 55 60
Lys Ile Gly Lys Phe Glu Lys Lys Pro Ser Leu Ser Pro Val Gln Trp
65 70 75 80
Val Arg Tyr Ser Gly Lys Asn Tyr Ser Ile Gln Thr Pro Ser Leu Trp
85 90 95
Gln Cys Ile Asp Asp Lys Thr Gln Leu Pro Glu Lys Leu Asp Val Leu
100 105 110
Leu Ile Gly Lys Gly Lys Gly Asn Leu Thr Pro Thr Ile Asn Ile Ala
115 120 125
Gln Glu Ile Thr Ser Lys Ser Ser Lys Glu Tyr Ile Glu Glu Ile Leu
130 135 140

Ala Tyr His Lys Ala Asn Glu Met Thr Leu Glu Ser Gly Ile Phe Thr
145 150 155 160
Gln Ile Gln Ser Pro Ser Gly Glu Phe Thr Ile Ile Lys Thr Glu Lys
165 170 175
Asn Ser Ser Trp Gly Arg Val Phe Cys Leu Gln Ala Thr Thr Val Ile
180 185 190
Asp His Thr Ala Tyr Ile Phe Thr Ser Thr Ala Thr Leu Asp Asp Tyr
195 200 205
Ala Glu Leu Ser Phe Thr Phe Leu Lys Val Val Ser Ser Phe Gln Ile
210 215 220
Arg Gly Gly Lys Glu Ala Thr Ser Gly Asp Ala Ile Leu Glu Lys Ala
225 230 235 240
Leu Glu Ala Leu Gln Asn Glu Asn Lys
245

<210> 88
<211> 210
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0086

<400> 88
Asn Ile Met Ala Asn Leu Asn Ala Asp Gly Lys Leu Lys Gln Ile Cys
1 5 10 15
Asp Ala Leu Arg Leu Asp Thr Leu Lys Pro Ala Glu Asp Glu Ala Ala
20 25 30
Ala Leu Leu His Asn Ala Lys Glu Gln Ala Lys Arg Ile Ile Gln Glu
35 40 45
Ala Gln Glu Glu Ala Arg Lys Ile Leu Glu Thr Ala Glu Glu Arg Ala
50 55 60
His Gln Lys Ile Lys Gln Gly Glu Val Ala Leu Ser Gln Ala Gly Lys
65 70 75 80
Arg Ala Leu Glu Ala Leu Lys Gln Ala Val Glu Asn Lys Ile Phe Arg
85 90 95
Glu Ser Leu Val Glu Trp Leu Glu His Val Thr Thr Asp Pro Glu Val
100 105 110
Ser Thr Lys Leu Ile Gln Ala Leu Val Gln Ala Leu Glu Ala Gln Gly
115 120 125
Val Ser Gly Asn Leu Thr Ala Tyr Ile Gly Lys His Val Ser Pro Arg
130 135 140
Ala Val Asn Glu Leu Leu Gly Lys Ala Val Thr Thr Lys Leu Arg Lys
145 150 155 160
Lys Ser Val Val Val Gly Ser Phe Val Gly Gly Val Gln Leu Lys Val
165 170 175
Glu Glu Lys Asn Trp Val Leu Asp Leu Ser Ser Ser Ala Leu Leu Glu
180 185 190
Ile Phe Thr Arg Tyr Leu Gln Lys Asp Phe Arg Glu Met Ile Phe Gln
195 200 205
Gly Ser
210

<210> 89
<211> 279
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0087

<400> 89

Ser	His	Glu	Lys	Ile	Phe	Ser	Ile	Phe	Lys	Val	Val	Val	Met	Thr	Gln
1				5					10					15	
Tyr	Tyr	Phe	Leu	Ser	Ser	Phe	Leu	Pro	Thr	Gln	Leu	Pro	Glu	Ser	Val
			20					25					30		
Pro	Leu	Phe	Ser	Ile	Ser	Asp	Leu	Asp	Asp	Leu	Leu	Tyr	Leu	Asn	Leu
		35					40					45			
Ser	Glu	Asn	Asp	Leu	Cys	Asn	Tyr	Gly	Leu	Leu	Lys	Arg	Phe	Phe	Asp
50						55					60				
Phe	Glu	Asn	Phe	Ala	Phe	Phe	Trp	Ala	Gly	Lys	Pro	Ile	Pro	Phe	Ser
65					70					75					80
Phe	Gly	Glu	Val	Thr	Gln	Glu	Asn	Val	Glu	Arg	Met	Leu	Ser	Ser	Gln
				85					90					95	
Gln	Trp	Ser	Asp	Asp	Asn	Asp	Phe	Glu	Asp	Phe	Phe	Lys	Asp	Phe	Leu
			100					105					110		
Met	Asn	His	Lys	Ser	Ser	Gln	Asp	Arg	Leu	Asn	His	Phe	Ser	Asp	Leu
		115					120					125			
Phe	Arg	Glu	Phe	Leu	Ser	Tyr	His	Gln	Thr	Asn	Ser	Ser	Lys	Phe	Leu
130						135						140			
Gln	Asp	Tyr	Phe	Arg	Phe	Gln	Gln	Gln	Leu	Arg	Val	Val	Leu	Ala	Gly
145					150					155					160
Phe	Arg	Ala	Arg	Val	Leu	Asn	Met	Asp	Val	Ser	Tyr	Val	Leu	Arg	Asp
				165					170					175	
Glu	Asp	Ser	Ser	Asp	Pro	Val	Val	Leu	Glu	Val	Leu	Met	Gln	Lys	Asp
			180					185					190		
Ser	Pro	Asn	Tyr	Glu	Leu	Pro	Glu	Glu	Phe	Ser	Asp	Leu	Gln	Gly	Val
		195					200					205			
Leu	Asp	Asp	Tyr	Gly	Leu	Leu	Pro	His	Thr	Leu	Asn	Arg	Ala	Leu	Ala
210					215						220				
Leu	Tyr	Gln	Phe	His	Lys	Leu	Glu	Gly	Phe	Cys	Ser	Asp	Ser	Tyr	Phe
225					230					235					240
Asp	Gly	Asn	Val	Ile	Leu	Ala	Arg	Cys	Ala	Thr	Tyr	Met	Phe	Ala	Ile
				245					250					255	
Arg	Asn	Ser	Leu	Ala	Ser	Val	Glu	Lys	Gly	Arg	Glu	Ile	Ile	Asn	His
			260					265					270		
Ile	Glu	Lys	Ala	Ile	Lys	Trp									
			275												

<210> 90
 <211> 598
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0088

<400> 90

Ser	Tyr	Arg	Lys	Gly	Asn	Gln	Met	Val	Thr	Val	Ser	Glu	Gln	Thr	Ala
1				5					10					15	
Gln	Gly	His	Val	Ile	Glu	Ala	Tyr	Gly	Asn	Leu	Leu	Arg	Val	Arg	Phe
			20					25					30		
Asp	Gly	Tyr	Val	Arg	Gln	Gly	Glu	Val	Ala	Tyr	Val	Asn	Val	Asp	Asn
		35					40					45			
Thr	Trp	Leu	Lys	Ala	Glu	Val	Ile	Glu	Val	Ala	Asp	Gln	Glu	Val	Lys
50					55						60				
Val	Gln	Val	Phe	Glu	Asp	Thr	Gln	Gly	Ala	Cys	Arg	Gly	Ala	Leu	Val
65					70					75					80
Thr	Phe	Ser	Gly	His	Leu	Leu	Glu	Ala	Glu	Leu	Gly	Pro	Gly	Leu	Leu
				85					90					95	
Gln	Gly	Ile	Phe	Asp	Gly	Leu	Gln	Asn	Arg	Leu	Glu	Val	Leu	Ala	Glu
			100					105					110		

Asp	Ser	Ser	Phe	Leu	Gln	Arg	Gly	Lys	His	Val	Asn	Ala	Ile	Ser	Asp
		115					120					125			
His	Asn	Leu	Trp	Asn	Tyr	Thr	Pro	Val	Ala	Ser	Val	Gly	Asp	Thr	Leu
	130					135					140				
Arg	Arg	Gly	Asp	Leu	Leu	Gly	Thr	Val	Pro	Glu	Gly	Arg	Phe	Thr	His
145					150					155					160
Lys	Ile	Met	Val	Pro	Phe	Ser	Cys	Phe	Gln	Glu	Val	Thr	Leu	Thr	Trp
				165					170					175	
Val	Ile	Ser	Glu	Gly	Thr	Tyr	Asn	Ala	His	Thr	Val	Val	Ala	Lys	Ala
			180					185						190	
Arg	Asp	Ala	Gln	Gly	Lys	Glu	Cys	Ala	Phe	Thr	Met	Val	Gln	Arg	Trp
		195					200					205			
Pro	Ile	Lys	Gln	Ala	Phe	Ile	Glu	Gly	Glu	Lys	Ile	Pro	Ala	His	Lys
	210					215					220				
Ile	Met	Asp	Val	Gly	Leu	Arg	Ile	Leu	Asp	Thr	Gln	Ile	Pro	Val	Leu
225					230					235					240
Lys	Gly	Gly	Thr	Phe	Cys	Thr	Pro	Gly	Pro	Phe	Gly	Ala	Gly	Lys	Thr
				245					250					255	
Val	Leu	Gln	His	His	Leu	Ser	Lys	Tyr	Ala	Ala	Val	Asp	Ile	Val	Ile
			260					265					270		
Leu	Cys	Ala	Cys	Gly	Glu	Arg	Ala	Gly	Glu	Val	Val	Glu	Val	Leu	Gln
		275					280					285			
Glu	Phe	Pro	His	Leu	Ile	Asp	Pro	His	Thr	Gly	Lys	Ser	Leu	Met	His
	290					295					300				
Arg	Thr	Cys	Ile	Ile	Cys	Asn	Thr	Ser	Ser	Met	Pro	Val	Ala	Ala	Arg
305					310					315					320
Glu	Ser	Ser	Ile	Tyr	Leu	Gly	Val	Thr	Ile	Ala	Glu	Tyr	Tyr	Arg	Gln
				325					330					335	
Met	Gly	Leu	Asp	Ile	Leu	Leu	Leu	Ala	Asp	Ser	Thr	Ser	Arg	Trp	Ala
			340					345					350		
Gln	Ala	Leu	Arg	Glu	Ile	Ser	Gly	Arg	Leu	Glu	Glu	Ile	Pro	Gly	Glu
		355					360					365			
Glu	Ala	Phe	Pro	Ala	Tyr	Leu	Ser	Ser	Arg	Ile	Ala	Ala	Phe	Tyr	Glu
	370					375					380				
Arg	Gly	Gly	Ala	Ile	Thr	Thr	Lys	Asp	Gly	Ser	Glu	Gly	Ser	Leu	Thr
385					390					395					400
Ile	Cys	Gly	Ala	Val	Ser	Pro	Ala	Gly	Gly	Asn	Phe	Glu	Glu	Pro	Val
				405					410					415	
Thr	Gln	Ser	Thr	Leu	Ala	Val	Val	Gly	Ala	Phe	Cys	Gly	Leu	Ser	Lys
			420					425					430		
Ala	Arg	Ala	Asp	Ala	Arg	Arg	Tyr	Pro	Ser	Ile	Asp	Pro	Leu	Ile	Ser
		435					440					445			
Trp	Ser	Lys	Tyr	Leu	Asn	Gln	Val	Gly	Gln	Ile	Leu	Glu	Glu	Lys	Val
	450					455					460				
Ser	Gly	Trp	Gly	Gly	Ala	Val	Lys	Lys	Ala	Ala	Gln	Phe	Leu	Glu	Lys
465					470					475					480
Gly	Ser	Glu	Ile	Gly	Lys	Arg	Met	Glu	Val	Val	Gly	Glu	Glu	Gly	Val
				485					490					495	
Ser	Met	Glu	Asp	Met	Glu	Ile	Tyr	Leu	Lys	Ala	Glu	Leu	Tyr	Asp	Phe
			500					505					510		
Cys	Tyr	Leu	Gln	Gln	Asn	Ala	Phe	Asp	Pro	Val	Asp	Cys	Tyr	Cys	Pro
		515					520					525			
Phe	Glu	Arg	Gln	Ile	Glu	Leu	Phe	Ser	Leu	Ile	Ser	Arg	Ile	Phe	Asp
		530				535					540				
Ala	Lys	Phe	Val	Phe	Asp	Ser	Pro	Asp	Asp	Ala	Arg	Ser	Phe	Phe	Leu
545					550					555					560
Glu	Leu	Gln	Ser	Lys	Ile	Lys	Thr	Leu	Asn	Gly	Leu	Lys	Phe	Leu	Ser
				565					570					575	
Glu	Glu	Tyr	His	Glu	Ser	Lys	Glu	Val	Ile	Val	Arg	Leu	Leu	Glu	Lys
			580					585						590	

Thr Met Val Gln Met Ala
595

<210> 91
<211> 452
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0089

<400> 91
Leu Asp Cys Trp Lys Lys Gln Trp Tyr Lys Trp Arg Lys Asp Met Gln
1 5 10 15
Thr Ile Tyr Thr Lys Ile Thr Asp Ile Lys Gly Asn Leu Ile Thr Val
20 25 30
Glu Ala Glu Gly Ala Arg Leu Gly Glu Leu Ala Thr Ile Thr Arg Ser
35 40 45
Asp Gly Arg Ser Ser Tyr Ala Ser Val Leu Arg Phe Asp Leu Lys Lys
50 55 60
Val Thr Leu Gln Val Phe Gly Gly Thr Ser Gly Leu Ser Thr Gly Asp
65 70 75 80
His Val Thr Phe Leu Gly Arg Pro Met Glu Val Thr Phe Gly Ser Ser
85 90 95
Leu Leu Gly Arg Arg Leu Asn Gly Ile Gly Lys Pro Ile Asp Asn Glu
100 105 110
Gly Glu Cys Phe Gly Glu Pro Ile Glu Ile Ala Thr Pro Thr Phe Asn
115 120 125
Pro Val Cys Arg Ile Val Pro Arg Ser Met Val Arg Thr Asn Ile Pro
130 135 140
Met Ile Asp Val Phe Asn Cys Leu Val Lys Ser Gln Lys Ile Pro Ile
145 150 155 160
Phe Ser Ser Ser Gly Glu His His Asn Ala Leu Leu Met Arg Ile Ala
165 170 175
Ala Gln Thr Asp Ala Asp Ile Val Val Ile Gly Gly Met Gly Leu Thr
180 185 190
Phe Val Asp Tyr Ser Phe Phe Val Glu Glu Ser Lys Lys Leu Gly Phe
195 200 205
Ala Asp Lys Cys Val Met Phe Ile His Lys Ala Val Asp Ala Pro Val
210 215 220
Glu Cys Val Leu Val Pro Asp Met Ala Leu Ala Cys Ala Glu Lys Phe
225 230 235 240
Ala Val Glu Glu Lys Lys Asn Val Leu Val Leu Leu Thr Asp Met Thr
245 250 255
Ala Phe Ala Asp Ala Leu Lys Glu Ile Ser Ile Thr Met Asp Gln Ile
260 265 270
Pro Ala Asn Arg Gly Tyr Pro Gly Ser Leu Tyr Ser Asp Leu Ala Leu
275 280 285
Arg Tyr Glu Lys Ala Val Glu Ile Ala Asp Gly Gly Ser Ile Thr Leu
290 295 300
Ile Thr Val Thr Thr Met Pro Ser Asp Asp Ile Thr His Pro Val Pro
305 310 315 320
Asp Asn Thr Gly Tyr Ile Thr Glu Gly Gln Phe Tyr Leu Arg Asn Asn
325 330 335
Arg Ile Asp Pro Phe Gly Ser Leu Ser Arg Leu Lys Gln Leu Val Ile
340 345 350
Gly Lys Val Thr Arg Glu Asp His Gly Asp Leu Ala Asn Ala Leu Ile
355 360 365
Arg Leu Tyr Ala Asp Ser Arg Lys Ala Thr Glu Arg Met Ala Met Gly
370 375 380

Phe Lys Leu Ser Asn Trp Asp Lys Lys Leu Leu Ala Phe Ser Glu Leu
 385 390 395 400
 Phe Glu Thr Arg Leu Met Ser Leu Glu Val Asn Ile Pro Leu Glu Glu
 405 410 415
 Ala Leu Asp Ile Gly Trp Lys Ile Leu Ala Gln Ser Phe Thr Ser Glu
 420 425 430
 Glu Val Gly Ile Lys Ala Gln Leu Ile Asn Lys Tyr Trp Pro Lys Ala
 435 440 445
 Cys Leu Ser Lys
 450

<210> 92
 <211> 214
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0090

<400> 92
 Val Leu Ala Lys Ser Met Ser Val Gln Val Lys Leu Thr Lys Asn Ser
 1 5 10 15
 Phe Arg Leu Glu Lys Gln Lys Leu Ala Arg Leu Gln Thr Tyr Leu Pro
 20 25 30
 Thr Leu Lys Leu Lys Lys Ala Leu Leu Gln Ala Glu Val Gln Asn Ala
 35 40 45
 Val Lys Asp Ala Ala Glu Cys Asp Lys Asp Tyr Val Gln Ala Tyr Glu
 50 55 60
 Arg Ile Tyr Ala Phe Ala Glu Leu Phe Ser Ile Pro Leu Cys Thr Asp
 65 70 75 80
 Cys Val Glu Lys Ser Phe Glu Ile Gln Ser Ile Asp Asn Asp Phe Glu
 85 90 95
 Asn Ile Ala Gly Val Glu Val Pro Ile Val Arg Glu Val Thr Leu Phe
 100 105 110
 Pro Ala Ser Tyr Ser Leu Leu Gly Thr Pro Ile Trp Leu Asp Thr Met
 115 120 125
 Leu Ser Ala Ser Lys Glu Leu Val Val Lys Lys Val Met Ala Glu Val
 130 135 140
 Ser Lys Glu Arg Leu Lys Ile Leu Glu Glu Glu Leu Arg Ala Val Ser
 145 150 155 160
 Ile Arg Val Asn Leu Phe Glu Lys Lys Leu Ile Pro Glu Thr Thr Lys
 165 170 175
 Ile Leu Lys Lys Ile Ala Val Phe Leu Ser Asp Arg Ser Ile Thr Asp
 180 185 190
 Val Gly Gln Val Lys Met Ala Lys Lys Lys Ile Glu Leu Arg Lys Ala
 195 200 205
 Arg Gly Asp Glu Cys Val
 210

<210> 93
 <211> 660
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0091

<400> 93
 Val Arg Leu Asn Ile His Lys Tyr Leu Phe Ile Gly Arg Asn Lys Ala
 1 5 10 15

425

<400> 95
 Cys Lys Ala Ser Val Val Ser Ala Glu Phe Lys Leu Met Leu Asp Leu
 1 5 10 15
 Arg Gln Tyr Met Gly Ser Val Met Gln Arg Leu Gly Leu Ser Asn Leu
 20 25 30
 Phe His Cys Leu Leu Leu Phe Leu Arg Tyr Tyr Tyr Ser Lys Leu Val
 35 40 45
 Phe Gly Leu Thr Val Leu Leu Ala Ala Ile Ser Val Ile Cys Leu Leu
 50 55 60
 Gly Cys Ser Glu Pro Ser Leu Ser Ser Phe Thr Glu Tyr Val Gly Pro
 65 70 75 80
 Glu Tyr Ser Ala Ala Ala Gln Leu Ser Ile Glu Gln Ser Cys His Asp
 85 90 95
 Glu Val Tyr Gly Gln Gln Val Val Val Thr Trp Ser Leu Pro Ser Arg
 100 105 110
 Met Arg Lys Cys Leu Pro Val Thr Leu Tyr Leu Trp Val Tyr Tyr Gly
 115 120 125
 Asn Gly Lys Val Glu Lys Leu Thr Tyr Glu Val Asn Gln Ser Ala Gly
 130 135 140
 Tyr Arg Val Tyr Cys Leu Lys Gly Leu Glu Tyr Lys Glu Leu Gln Gly
 145 150 155 160
 Ile Ile Ser Tyr Arg Val Ala Leu Cys Ser Gly Asn Gln Glu Ile Val
 165 170 175
 Ser Arg Arg His His Leu Trp Met Glu Val Ile Ser Leu Asp Ser Pro
 180 185 190

<210> 96
 <211> 956
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0094

<400> 96
 Val Tyr Arg Val Phe Leu Ser Arg Asp His Lys Phe Gly Leu Arg Ile
 1 5 10 15
 Met Thr Thr Glu Asp Phe Pro Lys Ala Tyr Asn Phe Gln Asp Thr Glu
 20 25 30
 Pro Glu Leu Tyr Val Phe Trp Glu Lys Asn Gly Met Phe Lys Ala Glu
 35 40 45
 Ala Ser Ser Asp Lys Pro Pro Tyr Ser Val Ile Met Pro Pro Pro Asn
 50 55 60
 Val Thr Gly Val Leu His Met Gly His Ala Leu Val Asn Thr Leu Gln
 65 70 75 80
 Asp Val Leu Val Arg Tyr Lys Arg Met Ser Gly Phe Glu Val Cys Trp
 85 90 95
 Ile Pro Gly Thr Asp His Ala Gly Ile Ala Thr Gln Ala Val Val Glu
 100 105 110
 Arg His Leu Gln Ala Ser Glu Gly Lys Arg Arg Thr Asp Tyr Ser Arg
 115 120 125
 Glu Asp Phe Leu Lys His Ile Trp Ala Trp Lys Glu Lys Ser Glu Lys
 130 135 140
 Val Val Leu Ser Gln Leu Arg Gln Leu Gly Cys Ser Cys Asp Trp Asp
 145 150 155 160
 Arg Lys Arg Phe Thr Met Glu Pro Leu Ala Asn Arg Ala Val Lys Lys
 165 170 175
 Ala Phe Lys Thr Leu Phe Glu Asn Gly Tyr Ile Tyr Arg Gly Tyr Tyr
 180 185 190
 Leu Val Asn Trp Asp Pro Val Leu Gln Thr Ala Leu Ala Asp Asp Glu
 195 200 205

Val	Glu	Tyr	Glu	Glu	Lys	Asp	Gly	Trp	Leu	Tyr	Tyr	Ile	Arg	Tyr	Arg
210						215					220				
Met	Val	Gly	Ser	Gln	Glu	Ser	Ile	Val	Val	Ala	Thr	Thr	Arg	Pro	Glu
225					230					235					240
Thr	Ser	Leu	Gly	Asp	Thr	Gly	Ile	Ala	Val	Ser	Pro	Asn	Asp	Glu	Arg
				245					250					255	
Tyr	Ala	Ser	Trp	Ile	Gly	Ala	Ser	Val	Glu	Val	Pro	Phe	Val	Asn	Arg
			260					265					270		
Gln	Ile	Pro	Ile	Ile	Gly	Asp	Ala	Ser	Val	Asp	Pro	Thr	Phe	Gly	Thr
		275					280					285			
Gly	Ala	Val	Lys	Val	Thr	Pro	Ala	His	Asp	Lys	Asp	Asp	Tyr	Leu	Met
		290				295					300				
Gly	Thr	Asn	His	His	Leu	Pro	Met	Ile	Asn	Ile	Leu	Thr	Pro	Ser	Gly
305					310					315					320
Gly	Ile	Asn	Glu	Asn	Gly	Gly	Pro	Phe	Ala	Gly	Met	Ala	Lys	Glu	Lys
				325					330					335	
Ala	Arg	Glu	Glu	Ile	Leu	Ile	Ala	Leu	Glu	Glu	Gln	Gly	Leu	Phe	Val
			340					345					350		
Arg	Lys	Glu	Pro	Tyr	Lys	Leu	Arg	Val	Gly	Val	Ser	Tyr	Arg	Ser	Gly
		355				360						365			
Ala	Val	Ile	Glu	Pro	Tyr	Leu	Ser	Lys	Gln	Trp	Phe	Val	Ser	Val	Ser
		370				375					380				
Glu	Phe	Arg	Gly	Ala	Leu	Arg	Glu	Phe	Val	Glu	Ser	Gln	Asp	Ile	Lys
385					390					395					400
Ile	Phe	Pro	Lys	Asp	Phe	Val	Lys	Asn	Tyr	Leu	Ser	Trp	Val	Asn	His
				405					410					415	
Leu	Arg	Asp	Trp	Cys	Ile	Ser	Arg	Gln	Leu	Trp	Trp	Gly	His	Arg	Ile
		420						425					430		
Pro	Val	Trp	Tyr	His	Lys	Asn	Asp	Asp	Glu	Arg	Val	Leu	Cys	Tyr	Asp
		435				440						445			
Gly	Glu	Gly	Ile	Pro	Glu	Glu	Val	Ala	Gln	Asp	Pro	Asp	Ser	Trp	Tyr
		450				455					460				
Gln	Asp	Pro	Asp	Val	Leu	Asp	Thr	Trp	Phe	Ser	Ser	Gly	Leu	Trp	Pro
465					470					475					480
Leu	Thr	Cys	Leu	Gly	Trp	Pro	Asp	Glu	Asn	Ser	Pro	Asp	Leu	Lys	Lys
				485					490					495	
Phe	Tyr	Pro	Thr	Ala	Leu	Leu	Val	Thr	Gly	His	Asp	Ile	Leu	Phe	Phe
			500					505					510		
Trp	Val	Thr	Arg	Met	Val	Leu	Leu	Cys	Ser	Ser	Met	Ser	Gly	Glu	Lys
		515					520						525		
Pro	Phe	Ser	Glu	Val	Phe	Leu	His	Gly	Leu	Ile	Phe	Gly	Lys	Ser	Tyr
		530				535					540				
Lys	Arg	Tyr	Asn	Asp	Phe	Gly	Glu	Trp	Ser	Tyr	Ile	Ser	Gly	Lys	Glu
545					550					555					560
Lys	Leu	Ala	Tyr	Asp	Met	Gly	Glu	Ala	Leu	Pro	Asp	Gly	Val	Val	Ala
				565					570					575	
Lys	Trp	Glu	Lys	Leu	Ser	Lys	Ser	Lys	Gly	Asn	Val	Ile	Asp	Pro	Leu
		580						585					590		
Glu	Met	Ile	Ala	Thr	Tyr	Gly	Thr	Asp	Ala	Val	Arg	Leu	Thr	Leu	Cys
		595					600					605			
Ser	Cys	Ala	Asn	Arg	Gly	Glu	Gln	Ile	Asp	Leu	Asp	Tyr	Arg	Leu	Phe
		610				615					620				
Glu	Glu	Tyr	Lys	His	Phe	Ala	Asn	Lys	Val	Trp	Asn	Gly	Ala	Arg	Phe
625					630					635					640
Ile	Phe	Gly	His	Ile	Ser	Asp	Leu	Gln	Gly	Lys	Asp	Leu	Leu	Ala	Gly
				645					650					655	
Ile	Asp	Glu	Asp	Ser	Leu	Gly	Leu	Glu	Asp	Phe	Tyr	Ile	Leu	Asp	Gly
		660						665					670		
Phe	Asn	Gln	Leu	Ile	His	Gln	Leu	Glu	Glu	Ala	Tyr	Ala	Thr	Tyr	Ala
		675					680					685			

Phe Asp Lys Val Ala Thr Leu Ala Tyr Glu Phe Phe Arg Asn Asp Leu
 690 695 700
 Cys Ser Thr Tyr Ile Glu Ile Ile Lys Pro Thr Leu Phe Gly Lys Gln
 705 710 715 720
 Gly Asn Glu Ala Ser Gln Ser Thr Lys Arg Thr Leu Leu Ala Val Leu
 725 730 735
 Leu Ile Asn Val Leu Gly Val Leu His Pro Val Ala Pro Phe Ile Thr
 740 745 750
 Glu Ser Leu Phe Leu Arg Ile Gln Asp Thr Leu Gly Ala Leu Pro Glu
 755 760 765
 Gly Asp Gly Asp Ala Phe Thr Gly His Ala Leu Arg Met Leu Arg Ser
 770 775 780
 Arg Ala Cys Met Glu Ala Pro Tyr Pro Lys Ala Phe Asp Val Lys Ile
 785 790 795 800
 Pro Gln Asp Leu Arg Glu Ser Phe Thr Leu Ala Gln Arg Leu Val Tyr
 805 810 815
 Thr Ile Arg Asn Ile Arg Gly Glu Met Gln Leu Asp Pro Arg Leu His
 820 825 830
 Leu Lys Ala Phe Val Val Cys Ser Asp Thr Thr Glu Ile Gln Ser Cys
 835 840 845
 Ile Pro Ile Leu Gln Ala Leu Gly Gly Leu Glu Ser Ile Gln Leu Leu
 850 855 860
 Asp Lys Glu Pro Glu Lys Gly Leu Tyr Ser Phe Gly Val Val Asp Thr
 865 870 875 880
 Ile Arg Leu Gly Ile Phe Val Pro Glu Glu His Leu Leu Lys Glu Lys
 885 890 895
 Gly Arg Leu Glu Lys Glu Arg Val Arg Leu Glu Arg Ala Val Glu Asn
 900 905 910
 Leu Glu Arg Leu Leu Gly Asp Glu Ser Phe Cys Gln Lys Ala Asn Pro
 915 920 925
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 930 935 940
 Leu Gln Gly Ile Leu Asp Lys Leu Ala Ser Phe Ala
 945 950 955

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<220>
 <223> CPn0095

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 Leu Ala Tyr Asp Pro Val Cys Ser Arg Lys Val Ala Leu Lys Lys Ile
 35 40 45
 Arg Glu Asp Leu Ala Glu Asn Pro Leu Leu Lys Arg Arg Phe Leu Arg
 50 55 60
 Glu Ala Arg Ile Ala Ala Asp Leu Ile His Pro Gly Val Val Pro Val
 65 70 75 80
 Tyr Thr Ile Tyr Ser Glu Lys Asp Pro Val Tyr Tyr Thr Met Pro Tyr
 85 90 95
 Ile Glu Gly Tyr Thr Leu Lys Thr Leu Lys Ser Val Trp Gln Lys
 100 105 110
 Glu Ser Leu Ser Lys Glu Leu Ala Glu Lys Thr Ser Val Gly Ala Phe
 115 120 125

Leu	Ser	Ile	Phe	His	Lys	Ile	Cys	Cys	Thr	Ile	Glu	Tyr	Val	His	Ser
130						135					140				
Arg	Gly	Ile	Leu	His	Arg	Asp	Leu	Lys	Pro	Asp	Asn	Ile	Leu	Leu	Gly
145					150					155					160
Leu	Phe	Ser	Glu	Ala	Val	Ile	Leu	Asp	Trp	Gly	Ala	Ala	Val	Ala	Cys
				165					170						175
Gly	Glu	Glu	Glu	Asp	Leu	Leu	Asp	Ile	Asp	Val	Ser	Lys	Glu	Glu	Val
				180					185						190
Leu	Ser	Ser	Arg	Met	Thr	Ile	Pro	Gly	Arg	Ile	Val	Gly	Thr	Pro	Asp
		195					200					205			
Tyr	Met	Ala	Pro	Glu	Arg	Leu	Leu	Gly	His	Pro	Ala	Ser	Lys	Ser	Thr
210						215					220				
Asp	Ile	Tyr	Ala	Leu	Gly	Val	Val	Leu	Tyr	Gln	Met	Leu	Thr	Leu	Ser
225					230					235					240
Phe	Pro	Tyr	Arg	Arg	Lys	Lys	Gly	Lys	Lys	Ile	Val	Leu	Asp	Gly	Gln
				245					250						255
Arg	Ile	Pro	Ser	Pro	Gln	Glu	Val	Ala	Pro	Tyr	Arg	Glu	Ile	Pro	Pro
				260					265						270
Phe	Leu	Ser	Ala	Val	Val	Met	Arg	Met	Leu	Ala	Val	Asp	Pro	Gln	Glu
		275					280					285			
Arg	Tyr	Ser	Ser	Val	Thr	Glu	Leu	Lys	Glu	Asp	Ile	Glu	Ser	His	Leu
		290					295					300			
Lys	Gly	Ser	Pro	Lys	Trp	Thr	Leu	Thr	Thr	Ala	Leu	Pro	Pro	Lys	Lys
305					310					315					320
Ser	Ser	Ser	Trp	Lys	Leu	Asn	Glu	Pro	Ile	Leu	Leu	Ser	Lys	Tyr	Phe
				325					330						335
Pro	Met	Leu	Glu	Val	Ser	Pro	Ala	Ser	Trp	Tyr	Ser	Leu	Ala	Ile	Ser
				340					345						350
Asn	Ile	Glu	Ser	Phe	Ser	Glu	Met	Arg	Leu	Glu	Tyr	Thr	Leu	Ser	Lys
		355					360					365			
Lys	Gly	Leu	Asn	Glu	Gly	Phe	Gly	Ile	Leu	Leu	Pro	Thr	Ser	Glu	Asn
		370				375					380				
Ala	Leu	Gly	Gly	Asp	Phe	Tyr	Gln	Gly	Tyr	Gly	Phe	Trp	Leu	His	Ile
385					390					395					400
Lys	Glu	Arg	Thr	Leu	Ser	Val	Ser	Leu	Val	Lys	Asn	Ser	Leu	Glu	Ile
				405					410						415
Gln	Arg	Cys	Ser	Gln	Asp	Leu	Glu	Ser	Asp	Lys	Glu	Thr	Phe	Leu	Ile
				420					425						430
Ala	Leu	Glu	Gln	His	Asn	His	Ser	Leu	Ser	Leu	Phe	Val	Asp	Gly	Thr
		435					440								445
Thr	Trp	Leu	Ile	His	Met	Asn	Tyr	Leu	Pro	Ser	Arg	Ser	Gly	Arg	Val
		450					455								460
Ala	Ile	Ile	Val	Arg	Asp	Met	Glu	Asp	Ile	Leu	Glu	Asp	Ile	Gly	Ile
465					470					475					480
Phe	Glu	Ser	Ser	Gly	Ser	Leu	Arg	Val	Ser	Cys	Leu	Ala	Val	Pro	Asp
				485					490						495
Ala	Phe	Leu	Ala	Glu	Lys	Leu	Tyr	Asp	Arg	Ala	Leu	Val	Leu	Tyr	Arg
				500					505						510
Arg	Ile	Ala	Glu	Ser	Phe	Pro	Gly	Arg	Lys	Glu	Gly	Tyr	Glu	Ala	Arg
		515					520								525
Phe	Arg	Ala	Gly	Ile	Thr	Val	Leu	Glu	Lys	Ala	Ser	Thr	Asp	Asn	Asn
		530					535								540
Glu	Gln	Glu	Phe	Ala	Leu	Ala	Ile	Glu	Glu	Phe	Ser	Lys	Leu	His	Asp
545					550					555					560
Gly	Val	Ala	Ala	Pro	Leu	Glu	Tyr	Leu	Gly	Lys	Ala	Leu	Val	Tyr	Gln
				565					570						575
Arg	Leu	Gln	Glu	Tyr	Asn	Glu	Glu	Ile	Lys	Ser	Leu	Leu	Leu	Ala	Leu
				580					585						590
Lys	Arg	Tyr	Ser	Gln	His	Pro	Glu	Ile	Phe	Arg	Leu	Lys	Asp	His	Val
				595					600						605

Val Tyr Arg Leu His Glu Ser Phe Tyr Lys Arg Asp Arg Leu Ala Leu
 610 615 620
 Val Phe Met Ile Leu Val Leu Glu Ile Ala Pro Gln Ala Ile Thr Pro
 625 630 635 640
 Gly Gln Glu Glu Lys Ile Leu Val Trp Leu Lys Asp Lys Ser Arg Ala
 645 650 655
 Thr Leu Phe Cys Leu Leu Asp Pro Thr Val Leu Glu Leu Arg Ser Ser
 660 665 670
 Lys Met Glu Leu Phe Leu Ser Tyr Trp Ser Gly Phe Ile Pro His Leu
 675 680 685
 Asn Ser Leu Phe His Arg Ala Trp Asp Gln Ser Asp Val Arg Ala Leu
 690 695 700
 Ile Glu Ile Phe Tyr Val Ala Cys Asp Leu His Lys Trp Gln Phe Leu
 705 710 715 720
 Ser Ser Cys Ile Asp Ile Phe Lys Glu Ser Leu Glu Asp Gln Lys Ala
 725 730 735
 Thr Glu Glu Ile Val Glu Phe Ser Phe Glu Asp Leu Gly Ala Phe Leu
 740 745 750
 Phe Ala Ile Gln Ser Ile Phe Asn Lys Glu Asp Ala Glu Lys Ile Phe
 755 760 765
 Val Ser Asn Asp Gln Leu Ser Pro Ile Leu Leu Val Tyr Ile Phe Asp
 770 775 780
 Leu Phe Ala Asn Arg Ala Leu Leu Glu Ser Gln Gly Glu Ala Ile Phe
 785 790 795 800
 Gln Ala Leu Asp Leu Ile Arg Ser Lys Val Pro Glu Asn Phe Tyr His
 805 810 815
 Asp Tyr Leu Arg Asn His Glu Ile Arg Ala His Leu Trp Cys Arg Asn
 820 825 830
 Glu Lys Ala Leu Ser Thr Ile Phe Glu Asn Tyr Thr Glu Lys Gln Leu
 835 840 845
 Lys Asp Glu Gln His Glu Leu Phe Val Leu Tyr Gly Cys Tyr Leu Ala
 850 855 860
 Leu Ile Gln Gly Ala Glu Ala Ala Lys Gln His Phe Asp Val Cys Arg
 865 870 875 880
 Glu Asp Arg Ile Phe Pro Ala Ser Leu Leu Ala Arg Asn Tyr Asn Arg
 885 890 895
 Leu Gly Leu Pro Lys Asp Ala Leu Ser Tyr Gln Glu Arg Arg Leu Leu
 900 905 910
 Leu Arg Gln Lys Phe Leu Tyr Phe His Cys Leu Gly Asn His Asp Glu
 915 920 925
 Arg Asp Leu Cys Gln Thr Met Tyr His Leu Leu Thr Glu Glu Phe Gln
 930 935 940
 Leu
 945

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 <213> Chlamydia pneumoniae

<220>
 <223> CPn0096

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 His Phe Asn Ser Glu Glu Ile Val Leu Leu Thr Gly Val Ser Gly Ser
 35 40 45

Gly Lys Ser Ser Ile Ala Phe Asp Thr Leu Tyr Ala Ala Gly Arg Lys
 50 55 60
 Arg Tyr Ile Ser Thr Leu Pro Thr Phe Phe Ala Thr Thr Ile Thr Thr
 65 70 75 80
 Leu Pro Asn Pro Lys Val Glu Glu Ile His Gly Leu Ser Pro Thr Ile
 85 90 95
 Ala Ile Lys Gln Asn His Phe Ser His Tyr Ser His Ala Thr Val Gly
 100 105 110
 Ser Thr Thr Glu Leu Phe Ser His Leu Ala Leu Leu Phe Thr Leu Glu
 115 120 125
 Gly Gln Ala Arg Asp Pro Lys Thr Lys Glu Val Leu Asp Leu Tyr Ser
 130 135 140
 Lys Glu Lys Val Leu Ser Thr Ile Met Glu Leu Ser Glu Gly Val Gln
 145 150 155 160
 Ile Ser Ile Leu Ala Pro Leu Leu Arg Lys Asp Ile Ala Ala Ile His
 165 170 175
 Glu Tyr Ala Gln Gln Gly Phe Thr Lys Val Arg Cys Asn Gly Thr Ile
 180 185 190
 His Pro Ile Tyr Ser Phe Leu Thr Ser Gly Ile Pro Glu Asp Cys Ser
 195 200 205
 Val Asp Ile Val Ile Asp Thr Leu Ile Lys Ser Glu Asn Asn Ile Ala
 210 215 220
 Arg Leu Lys Val Ser Leu Phe Thr Ala Leu Glu Phe Gly Glu Gly His
 225 230 235 240
 Cys Ser Val Leu Ser Asp Glu Glu Leu Met Thr Phe Ser Thr Lys Gln
 245 250 255
 Gln Ile Asp Asp Val Thr Tyr Thr Pro Leu Thr Gln Gln Leu Phe Ser
 260 265 270
 Pro His Ala Leu Glu Ser Arg Cys Ser Leu Cys Gln Gly Ser Gly Ile
 275 280 285
 Phe Ile Ser Ile Asp Asn Pro Leu Leu Ile Asp Glu Asn Leu Ser Ile
 290 295 300
 Lys Glu Asn Cys Cys Ser Phe Ala Gly Asn Cys Ser Ser Tyr Leu Tyr
 305 310 315 320
 His Thr Ile Tyr Gln Ala Leu Ala Asp Ala Leu Asn Phe Asn Leu Glu
 325 330 335
 Thr Pro Trp Lys Asp Leu Ser Pro Glu Ile Gln Asn Ile Phe Leu Arg
 340 345 350
 Gly Lys Asn Asn Leu Val Leu Pro Val Arg Leu Phe Asp Gln Thr Leu
 355 360 365
 Gly Lys Lys Asn Leu Thr Tyr Lys Val Trp Arg Gly Val Leu Asn Asp
 370 375 380
 Ile Gly Asp Lys Val Arg Tyr Thr Thr Lys Pro Ser Arg Tyr Leu Ser
 385 390 395 400
 Lys Gly Met Ser Ala His Ser Cys Ser Leu Cys Lys Gly Thr Gly Leu
 405 410 415
 Gly Asp Tyr Ala Ser Val Ala Thr Trp Glu Gly Lys Thr Phe Thr Glu
 420 425 430
 Phe Gln Gln Met Ser Leu Asn Asn Trp His Val Phe Phe Ser Lys Val
 435 440 445
 Lys Ser Pro Ser Leu Ser Ile Gln Glu Ile Leu Gln Gly Leu Lys Gln
 450 455 460
 Arg Leu Ser Phe Leu Ile Asp Leu Gly Leu Gly Tyr Leu Thr Pro Asn
 465 470 475 480
 Arg Ala Leu Ala Thr Leu Ser Gly Gly Glu Gln Glu Arg Thr Ala Ile
 485 490 495
 Ala Lys His Leu Gly Gly Glu Leu Phe Gly Ile Thr Tyr Ile Leu Asp
 500 505 510
 Glu Pro Ser Ile Gly Leu His Pro Gln Asp Thr Glu Lys Leu Ile Gly
 515 520 525

Val Ile Lys Lys Leu Arg Asp Gln Gly Asn Thr Val Ile Leu Val Glu
530 535 540
His Glu Glu Arg Met Ile Ser Leu Ala Asp Arg Ile Ile Asp Ile Gly
545 550 555 560
Pro Gly Ala Gly Ile Phe Gly Gly Glu Val Leu Phe Asn Gly Lys Pro
565 570 575
Glu Asp Phe Leu Met Asn Ser Ser Ser Leu Thr Ala Lys Tyr Leu Arg
580 585 590
Gln Glu Leu Thr Ile Pro Ile Pro Glu Ser Arg Glu Ala Pro Thr Ser
595 600 605
Trp Leu Leu Leu Thr Glu Ala Thr Ile His Asn Leu Lys Asn Leu Ser
610 615 620
Ile Arg Leu Pro Leu Ala Arg Leu Ile Gly Val Thr Gly Val Ser Gly
625 630 635 640
Ser Gly Lys Ser Ser Leu Ile Asn Asn Thr Leu Val Pro Ala Ile Glu
645 650 655
Ser Phe Leu Lys Gln Glu Asn Pro Lys Asn Leu His Phe Glu Trp Gly
660 665 670
Cys Ile Gly Arg Leu Ile His Ile Thr Arg Asp Leu Pro Gly Arg Ser
675 680 685
Gln Arg Ser Ile Pro Leu Thr Tyr Ile Lys Ala Phe Asp Asp Ile Arg
690 695 700
Glu Leu Phe Ala Ser Gln Pro Arg Ser Leu Arg Gln Gly Leu Thr Lys
705 710 715 720
Ala His Phe Ser Phe Asn Gln Pro Gln Gly Ala Cys Ile Gln Cys Gln
725 730 735
Gly Leu Gly Thr Met Thr Ile Ser Asp Asp Thr Pro Ile Pro Cys
740 745 750
Ser Glu Cys Gln Gly Lys Arg Tyr His Ser Glu Val Leu Glu Ile Leu
755 760 765
Tyr Glu Gly Lys Asn Ile Ala Asp Ile Leu Asp Met Thr Ala Tyr Glu
770 775 780
Ala Glu Lys Phe Phe Ile Ser His Pro Lys Ile His Glu Lys Ile His
785 790 795 800
Ala Leu Cys Ser Leu Arg Leu Asp Tyr Leu Pro Leu Gly Arg Pro Leu
805 810 815
Ser Thr Leu Ser Gly Gly Glu Ile Gln Arg Leu Lys Leu Ala His Glu
820 825 830
Leu Leu Phe Ala Ser Pro Lys Gln Thr Leu Tyr Val Leu Asp Glu Pro
835 840 845
Thr Thr Gly Leu His Thr His Asp Ile Gln Ala Leu Ile Glu Val Leu
850 855 860
Leu Ser Leu Thr Tyr Leu Gly His Thr Val Leu Val Ile Glu His Asn
865 870 875 880
Met His Val Val Lys Val Cys Asp Tyr Val Leu Glu Leu Gly Pro Glu
885 890 895
Gly Gly Asp Leu Gly Gly Tyr Leu Leu Ala Ser Cys Thr Pro Lys Asp
900 905 910
Leu Ile Gln Leu Asn Thr Pro Thr Ala Lys Ala Leu Ala Pro Tyr Ile
915 920 925
Glu Gly Ser Leu Asp Ile Pro Val Val Lys Ser Glu Pro Pro Ser Ser
930 935 940
Pro Lys Ser Cys Asp Ile Leu Ile Lys Asp Ala Tyr Gln Asn Asn Leu
945 950 955 960
Lys His Ile Asp Leu Ala Leu Pro Arg Asn Ser Leu Ile Ala Ile Ala
965 970 975
Gly Pro Gly Ala Ser Gly Lys His Ser Leu Val Phe Asp Ile Leu Tyr
980 985 990
Ala Ser Gly Asn Ile Ala Tyr Ala Glu Leu Phe Pro Pro Tyr Ile Arg
995 1000 1005

Gln Gly Leu Leu Lys Glu Thr Pro Leu Pro Ser Val Gly Glu Val Lys
 1010 1015 1020
 Gly Leu Ser Pro Val Ile Ser Val Arg Lys Cys Ser Ser Ser Asn Arg
 1025 1030 1035 1040
 Ser Tyr His Thr Ile Ala Ser Ala Leu Gly Leu Ser Asn Gly Leu Glu
 1045 1050 1055
 Lys Leu Phe Ala Ile Leu Gly Glu Pro Phe Ser Pro Leu Thr Glu Glu
 1060 1065 1070
 Lys Leu Ser Lys Thr Thr Pro Gln Thr Ile Ile Asp Ser Leu Leu Lys
 1075 1080 1085
 Ser Tyr Lys Asp Asp Tyr Val Thr Ile Thr Ser Pro Ile Pro Leu Gly
 1090 1095 1100
 Ser Asp Leu Glu Ile Phe Leu Gln Glu Lys Gln Lys Glu Gly Phe Ile
 1105 1110 1115 1120
 Lys Leu Tyr Ser Glu Gly Asn Leu Tyr Asp Leu Asp Glu Arg Leu Pro
 1125 1130 1135
 Leu Asn Leu Ile Glu Pro Ala Ile Val Ile Gln His Thr Lys Val Ser
 1140 1145 1150
 Pro Lys Asn Ser Ser Ser Leu Leu Ser Ala Ile Ser Val Ala Phe Ser
 1155 1160 1165
 Leu Ser Ser Glu Ile Trp Ile Tyr Ile Ser Gln Lys Lys Gln Arg Lys
 1170 1175 1180
 Leu Ser Tyr Ser Leu Gly Trp Lys Asp Lys Lys Gly Arg Leu Tyr Pro
 1185 1190 1195 1200
 Glu Ile Thr His Gln Leu Leu Ser Ser Asp His Pro Glu Gly Arg Cys
 1205 1210 1215
 Leu Thr Cys Gly Gly Arg Gly Glu Ile Leu Lys Ile Ser Leu Glu Glu
 1220 1225 1230
 His Lys Glu Lys Ile Ala His Tyr Thr Pro Leu Glu Phe Phe Ser Leu
 1235 1240 1245
 Phe Phe Pro Lys Ser Tyr Met Lys Pro Val Gln Lys Leu Leu Lys Asp
 1250 1255 1260
 Glu Asn Ala Ser Gln Pro Leu Lys Leu Leu Thr Thr Lys Glu Phe Leu
 1265 1270 1275 1280
 Asn Phe Cys Arg Gly Ser Ser Glu Phe Pro Gly Met Asn Ala Leu Leu
 1285 1290 1295
 Met Glu Gln Leu Asp Thr Glu Ser Asp Ser Pro Leu Ile Lys Pro Leu
 1300 1305 1310
 Leu Ala Leu Thr Ser Cys Pro Ala Cys Lys Gly Ser Gly Leu Asn Asp
 1315 1320 1325
 Tyr Ala Asn Tyr Val Arg Ile Asn Asn Thr Ser Leu Leu Asp Ile Tyr
 1330 1335 1340
 Gln Glu Asp Ala Thr Phe Leu Glu Ser Phe Leu Asn Thr Ile Gly Thr
 1345 1350 1355 1360
 Asp Asp Thr Arg Ser Ile Ile Gln Asp Leu Met Asn Arg Leu Thr Phe
 1365 1370 1375
 Ile Ser Lys Val Gly Leu Ser Tyr Ile Thr Leu Gly Gln Arg Gln Asp
 1380 1385 1390
 Thr Leu Ser Asp Gly Glu Asn Tyr Arg Leu His Leu Ala Lys Lys Ile
 1395 1400 1405
 Ser Ile Asn Leu Thr Asn Ile Val Tyr Leu Phe Glu Glu Pro Leu Ser
 1410 1415 1420
 Gly Leu His Pro Gln Asp Leu Pro Thr Ile Val Gln Leu Leu Lys Glu
 1425 1430 1435 1440
 Leu Val Ala Asn Asn Asn Thr Val Ile Ala Thr Asp Arg Ser Cys Ser
 1445 1450 1455
 Leu Ile Pro His Ala Asp His Ala Ile Phe Leu Gly Pro Gly Ser Gly
 1460 1465 1470
 Pro Gln Gly Gly Phe Leu Met Asp Ser Asp Thr Glu Val Cys Pro Ser
 1475 1480 1485

Val Asp Leu His Ala Asn Val Pro Gln Thr Glu Val Cys Pro Lys Ala
 1490 1495 1500
 Pro Leu Ser Ile Ser Lys Ala Asn His Thr Arg Gly Ser Asp Arg Thr
 1505 1510 1515 1520
 Leu Lys Val Asn Leu Ser Ile His His Ile Gln Asn Leu Lys Val Ser
 1525 1530 1535
 Ala Pro Leu His Ala Leu Val Ala Ile Gly Gly Val Ser Gly Ser Gly
 1540 1545 1550
 Lys Thr Ser Leu Leu Leu Glu Gly Phe Lys Lys Gln Ala Glu Leu Leu
 1555 1560 1565
 Ile Ala Lys Gly Thr Thr Thr Phe Ser Asp Leu Val Val Ile Asp Ser
 1570 1575 1580
 His Pro Ile Ala Ser Ser Gln Arg Ser Asp Ile Ser Thr Tyr Phe Asp
 1585 1590 1595 1600
 Ile Ala Pro Ser Leu Arg Ala Phe Tyr Ala Ser Leu Thr Gln Ala Lys
 1605 1610 1615
 Ala Leu Asn Ile Ser Ser Thr Met Phe Ser Thr Asn Thr Lys Gln Gly
 1620 1625 1630
 Gln Cys Ser Asp Cys Gln Gly Leu Gly Tyr Gln Trp Ile Asp Arg Ala
 1635 1640 1645
 Phe Tyr Ala Leu Glu Lys Arg Pro Cys Pro Thr Cys Ser Gly Phe Arg
 1650 1655 1660
 Ile Gln Pro Leu Ala Gln Glu Val Leu Tyr Glu Gly Lys His Phe Gly
 1665 1670 1675 1680
 Glu Leu Leu His Thr Pro Ile Glu Thr Val Ala Leu Arg Phe Pro Phe
 1685 1690 1695
 Ile Lys Lys Ile Gln Lys Pro Leu Lys Ala Leu Leu Asp Ile Gly Leu
 1700 1705 1710
 Gly Tyr Leu Pro Ile Gly Gln Lys Leu Ser Ser Leu Ser Val Ser Glu
 1715 1720 1725
 Lys Thr Ala Leu Lys Thr Ala Tyr Phe Leu Tyr Gln Thr Pro Glu Thr
 1730 1735 1740
 Pro Thr Leu Phe Leu Ile Asp Glu Leu Phe Ser Ser Leu Asp Pro Ile
 1745 1750 1755 1760
 Lys Lys Gln His Leu Pro Glu Lys Leu Arg Ser Leu Ile Asn Ser Gly
 1765 1770 1775
 His Ser Val Ile Tyr Ile Asp His Asp Val Lys Leu Leu Lys Ser Ala
 1780 1785 1790
 Asp Tyr Leu Ile Glu Ile Gly Pro Gly Ser Gly Lys Gln Gly Gly Lys
 1795 1800 1805
 Leu Leu Phe Ser Gly Ser Pro Lys Asp Ile Tyr Ala Ser Lys Asp Ser
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 Leu Leu Lys Lys Tyr Ile Cys Asn Glu Glu Leu Asp Ser
 1825 1830 1835

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 <213> Chlamydia pneumoniae

<220>
 <223> CPn0097

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 20 25 30
 Val Ala Arg Leu Asn Phe Ser His Gly Ser His Glu Thr His Gly Gln
 35 40 45

Ala Ile Gly Phe Leu Lys Glu Leu Arg Glu Gln Lys Arg Val Pro Leu
 50 55 60
 Ala Ile Met Leu Asp Thr Lys Gly Pro Glu Ile Arg Leu Gly Asn Ile
 65 70 75 80
 Pro Gln Pro Ile Ser Val Ser Gln Gly Gln Lys Leu Arg Leu Val Ser
 85 90 95
 Ser Asp Ile Asp Gly Ser Ala Glu Gly Gly Val Ser Leu Tyr Pro Lys
 100 105 110
 Gly Ile Phe Pro Phe Val Pro Glu Gly Ala Asp Val Leu Ile Asp Asp
 115 120 125
 Gly Tyr Ile His Ala Val Val Ser Ser Glu Ala Asp Ser Leu Glu
 130 135 140
 Leu Glu Phe Met Asn Ser Gly Leu Leu Lys Ser His Lys Ser Leu Ser
 145 150 155 160
 Ile Arg Gly Val Asp Val Ala Leu Pro Phe Met Thr Glu Lys Asp Ile
 165 170 175
 Ala Asp Leu Lys Phe Gly Val Glu Gln Asn Met Asp Val Val Ala Ala
 180 185 190
 Ser Phe Val Arg Tyr Gly Glu Asp Ile Glu Thr Met Arg Lys Cys Leu
 195 200 205
 Ala Asp Leu Gly Asn Pro Lys Met Pro Ile Ile Ala Lys Ile Glu Asn
 210 215 220
 Arg Leu Gly Val Glu Asn Phe Ser Lys Ile Ala Lys Leu Ala Asp Gly
 225 230 235 240
 Ile Met Ile Ala Arg Gly Asp Leu Gly Ile Glu Leu Ser Val Val Glu
 245 250 255
 Val Pro Asn Leu Gln Lys Met Met Ala Lys Val Ser Arg Glu Thr Gly
 260 265 270
 His Phe Cys Val Thr Ala Thr Gln Met Leu Glu Ser Met Ile Arg Asn
 275 280 285
 Val Leu Pro Thr Arg Ala Glu Val Ser Asp Ile Ala Asn Ala Ile Tyr
 290 295 300
 Asp Gly Ser Ser Ala Val Met Leu Ser Gly Glu Thr Ala Ser Gly Ala
 305 310 315 320
 His Pro Val Ala Ala Val Lys Ile Met Arg Ser Val Ile Leu Glu Thr
 325 330 335
 Glu Lys Asn Leu Ser His Asp Ser Phe Leu Lys Leu Asp Asp Ser Asn
 340 345 350
 Ser Ala Leu Gln Val Ser Pro Tyr Leu Ser Ala Ile Gly Leu Ala Gly
 355 360 365
 Ile Gln Ile Ala Glu Arg Ala Asp Ala Lys Ala Leu Ile Val Tyr Thr
 370 375 380
 Glu Ser Gly Ser Ser Pro Met Phe Leu Ser Lys Tyr Arg Pro Lys Phe
 385 390 395 400
 Pro Ile Ile Ala Val Thr Pro Ser Thr Ser Val Tyr Tyr Arg Leu Ala
 405 410 415
 Leu Glu Trp Gly Val Tyr Pro Met Leu Thr Gln Glu Ser Asp Arg Ala
 420 425 430
 Val Trp Arg His Gln Ala Cys Ile Tyr Gly Ile Glu Gln Gly Ile Leu
 435 440 445
 Ser Asn Tyr Asp Arg Ile Leu Val Leu Ser Arg Gly Ala Cys Met Glu
 450 455 460
 Glu Thr Asn Asn Leu Thr Leu Thr Ile Val Asn Asp Ile Leu Thr Gly
 465 470 475 480
 Ser Glu Phe Pro Glu Thr
 485

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<211> 468

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0098

<400> 100

Leu Val Gly Lys Lys Phe His Gln Ile Lys Arg Thr Ile Leu Glu Ala
1 5 10 15
Pro Leu Tyr Tyr Leu Val Ser Gly Ile Ile Ala Leu Cys Arg His Thr
20 25 30
Pro Arg Ser Phe Leu Thr Gly Leu Gly Lys Gly Phe Gly Phe Leu Ala
35 40 45
Phe Tyr Ile Ile Ser Asp Tyr Arg Lys Thr Ala Leu Thr Asn Leu Ala
50 55 60
Leu Ala Phe Pro Glu Lys Thr Phe Asp Glu Arg Tyr Lys Ile Ala Arg
65 70 75 80
Gln Ser Leu Gln His Leu Ile Ile Thr Leu Leu Glu Leu Leu Ala Ile
85 90 95
Glu Gln Leu Val Gly Asn Ile Asp Lys Leu Ile Thr Ile Val Thr Ser
100 105 110
Ser Arg Asn Pro Lys Gly Phe Ser Ser Glu Glu Val Ile Ser Asn Glu
115 120 125
Asp Leu Glu Glu Thr Phe Lys Asn Leu Gln Glu Lys Gln Gly Leu Ile
130 135 140
Leu Phe Cys Gly His Gln Ala Asn Trp Glu Leu Pro Phe Leu Tyr Ile
145 150 155 160
Thr Lys Asn Tyr Pro Gly Ile Ala Phe Ala Lys Ala Ile Lys Asn Gln
165 170 175
Arg Leu Ser Lys Lys Ile Phe Ala Leu Arg Glu Val Phe Lys Gly Lys
180 185 190
Ile Val Pro Pro Lys Asn Gly Ile Gln Gln Gly Ile Glu Ala Leu Asn
195 200 205
Gln Gly Lys Leu Val Gly Ile Val Gly Asp Gln Ala Leu Leu Met Ser
210 215 220
Ser Tyr Thr Tyr Pro Leu Phe Gly Ser Pro Ala Phe Thr Thr Thr Ser
225 230 235 240
Pro Ala Leu Leu Ala Tyr Lys Thr Gly Phe Pro Val Ile Ala Val Asn
245 250 255
Val Ser Arg Gln Ala Lys Gly Phe Glu Val Ile Pro Ser Ala Lys Leu
260 265 270
Tyr Ala Asn Lys Ser Leu Pro Met Lys Glu Ser Val Ala Ile Leu Met
275 280 285
Asp Gln Met Met Gly Phe Leu Glu Lys Gly Ile Ala Ser Gln Pro Glu
290 295 300
Gln Trp Met Trp Ile His Lys Arg Trp Lys Arg Lys Ile Ser Asn Val
305 310 315 320
Ile Lys Lys Lys Tyr Arg Tyr Ser His Ile Leu Val Phe Val Asp Gln
325 330 335
Val Ser Ser His Phe Ser Phe Leu Lys Ala Leu Ala Glu Cys Phe Ser
340 345 350
Gly Thr Thr Leu His Leu Ala Leu Gly Asn Ala Asp His Leu Glu Glu
355 360 365
Leu Gln Glu Gln Phe Pro Glu Tyr Ser Leu Ile Gln Leu Arg Asn Asp
370 375 380
Gln Asp Ile Leu Ala Leu Pro Asn Cys Tyr Pro Ala Ile Phe Asp Leu
385 390 395 400
Thr Asn Asn Leu Gln His Leu Tyr Lys His Phe Arg Lys Thr Gly Ser
405 410 415
Cys Ala Val Tyr Ser Lys Arg Phe Leu Glu Lys Ser Leu Asp His Pro
420 425 430
Gln Ala Pro Leu Lys Asn Ser Leu Arg Ile Phe Tyr Ser Lys Asn Leu
435 440 445

Lys Asp Lys Glu Arg Lys Asn Phe Lys Val Lys Ser Lys Gly Pro Arg
 450 455 460
 Leu Thr Val Glu
 465

<210> 101
 <211> 113
 <212> PRT
 <213> Chlamydia pneumoniae
 <220>
 <223> CPn0099

<400> 101
 Tyr Tyr Cys Ala Ser Tyr Tyr Leu Lys Ile Ser Arg Phe Ala Ala Lys
 1 5 10 15
 His Ala Pro Glu Arg Asn Met Leu Asn Ser Ile Val Thr Thr Arg Thr
 20 25 30
 Arg Thr Ala Ala Thr Leu Leu Ile Pro Lys Val Ile Pro Glu Ala Pro
 35 40 45
 Ser Thr Pro Val Gln Ile Lys Met Ile Ser Ile Lys Glu Thr Ile Ala
 50 55 60
 Val Arg Ala Lys Ser Pro Ala Asp Thr Val Ala Thr Phe Ala Leu Asp
 65 70 75 80
 Ser Glu Leu Ser Glu Gln Gln Gln Thr Val Leu Ile Ala Ala Ser Lys
 85 90 95
 Pro Arg Pro Lys Gln Ser Ile Lys His Ile Lys Phe Pro Leu Thr Lys
 100 105 110
 Phe

<210> 102
 <211> 434
 <212> PRT
 <213> Chlamydia pneumoniae
 <220>
 <223> CPn0100

<400> 102
 Arg Thr Gln Lys Lys Thr Phe Ile Leu Leu Asp Leu Glu Thr Met Ile
 1 5 10 15
 Lys Phe Leu Ser Gln Leu Phe Ile Arg His Trp Pro Arg Lys Val Val
 20 25 30
 Ser Leu Gly Phe Ala Ile Ile Ile Trp Ile Leu Val Gly Gln Ser Val
 35 40 45
 Thr Ile Thr Arg Thr Leu Thr Asn Val Pro Val Arg Ile Val Asp Leu
 50 55 60
 His Pro Asp Gln Thr Val Leu Gly Leu Gln Lys Ser Gly Phe Leu Asn
 65 70 75 80
 Lys Lys Val Ser Leu Thr Ile Thr Gly Asn Lys Asn Thr Val Gln Asp
 85 90 95
 Leu Arg Pro Ser Asn Leu Glu Val Val Ile Ser Ala Ala Asn His Thr
 100 105 110
 Glu Ser Trp Ile Ala Thr Ile Asp Lys His Asn Leu Val Ser Val Asp
 115 120 125
 His Glu Ile Asn Ile Arg Lys Asp Ile His Ser Val Asp Ala Asn Asp
 130 135 140
 Ile Phe Val Arg Leu Thr Gln Tyr Val Thr Glu Asp Ile Leu Leu Thr
 145 150 155 160

Ile Thr Lys Pro Ile Gly Ser Pro Pro Lys Gly Tyr Glu Tyr Leu Asp
 165 170 175
 Val Trp Pro Lys Tyr Leu Asn Gln Lys Val Ser Gly Pro Lys Glu Tyr
 180 185 190
 Ile Asn Ala Leu Lys Glu Gln Gly Leu Glu Leu Thr Phe Asn Leu Asn
 195 200 205
 Lys Ile Ser Phe Glu Glu Leu Glu Arg Asn Arg Ile Ala Gln Gly Ser
 210 215 220
 His Asp Glu Ile Ile Phe Pro Ile Pro Lys Glu Trp Lys Lys Ile Leu
 225 230 235 240
 Ile Pro Phe Glu Asn Thr Phe Met Asp Leu Asn Asp Pro Gln Ala Asp
 245 250 255
 Phe Leu Arg Leu Leu Phe Leu Lys Arg Glu Cys Ile Pro Leu Asn Leu
 260 265 270
 Asn Leu Pro Val Phe Leu Phe Phe Pro Val Thr Phe Ile Gln Thr Met
 275 280 285
 Asn Pro Leu Glu Tyr Ser Leu Asp Pro Val Pro Pro Ile Ile Leu Asn
 290 295 300
 His Gly Ile His Gln Ile Asn Ile Pro Leu Tyr Val Lys Asp Val Ser
 305 310 315 320
 Arg Gln Phe Leu Asp Val Val Lys Asn Asn Met Val Leu Thr Ile Val
 325 330 335
 Met Pro Ser Pro Gln Asp Pro Ser Ser Ile Asn Trp Ala Ile Glu Phe
 340 345 350
 Leu Asp Glu Lys Thr Leu Glu Asn Thr Phe Leu Gln Thr Ile Ile Ala
 355 360 365
 Gln Glu His Gly Ile Leu His Asp Ile Ala Leu Ile Asp Glu Ala Gly
 370 375 380
 Ile Arg His Arg Phe Arg Glu Tyr Leu Arg Lys Leu Ala Leu Phe Thr
 385 390 395 400
 Ala Asp Gly Glu Pro Leu Asn Leu Ile Ala Glu Ile Lys Asn Asn Lys
 405 410 415
 Val Val Ile Gln Thr Lys Thr Lys Glu Thr Thr Lys Leu Tyr Lys Lys
 420 425 430
 Glu Trp

<210> 103
 <211> 282
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0101

<400> 103
 Pro Ser Thr Leu Cys Asn Phe Ser Gln Tyr Thr Thr Gln Gly Pro Ser
 1 5 10 15
 Lys Thr Met Pro Phe Asp Ile Thr Tyr Tyr Thr Thr Pro Leu Leu Glu
 20 25 30
 Ile Ile Leu Ile Trp Val Met Leu Asn Tyr Leu Leu Lys Phe Phe Trp
 35 40 45
 Gly Thr Arg Ala Met Asp Val Val Phe Gly Leu Leu Ala Phe Leu Phe
 50 55 60
 Leu Phe Val Leu Ala Asp Lys Leu His Leu Pro Ile Ile Arg Arg Leu
 65 70 75 80
 Met Leu His Val Val Asn Ile Ala Ala Ile Val Val Phe Ile Ile Phe
 85 90 95
 Gln Pro Glu Ile Arg Leu Ala Leu Ser Arg Ile Arg Phe His Gly Lys
 100 105 110

Lys Phe Phe Ile Asp Thr Gln Glu Gln Phe Val Glu Gln Leu Ala Ala
 115 120 125
 Ser Ile Tyr Gln Leu Ser Glu Arg Gln Ile Gly Ala Leu Val Val Leu
 130 135 140
 Glu Asn Lys Asp Ser Phe Asp Glu Tyr Leu Ser Phe Ser Ser Val Lys
 145 150 155 160
 Ile Asn Ala Thr Phe Ser Glu Glu Leu Leu Glu Thr Ile Phe Glu Pro
 165 170 175
 Ser Ser Pro Leu His Asp Gly Ala Val Ile Leu Arg Gly Asp Ile Leu
 180 185 190
 Ala Tyr Ala Arg Val Val Leu Pro Leu Ala His Asp Thr Thr Gln Leu
 195 200 205
 Ser Arg Ser Met Gly Thr Arg His Arg Ala Ala Leu Gly Ala Ser Gln
 210 215 220
 Arg Ser Asp Ala Leu Ile Ile Thr Val Ser Glu Glu Asn Gly Ser Val
 225 230 235 240
 Ser Leu Ser Arg Asp Gly Leu Leu Thr Arg Gly Val Lys Ile Asp Arg
 245 250 255
 Phe Lys Ala Val Leu Arg Ser Ile Leu Ser Pro Lys Glu His Lys Arg
 260 265 270
 Lys Pro Leu Phe Ser Trp Ile Trp Lys Arg
 275 280

<210> 104
 <211> 456
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0102

 <400> 104
 Phe Tyr Ile Gln Phe Trp Lys Phe Met Asp Ala Leu Ile Leu Ser Arg
 1 5 10 15
 Ile Gln Phe Gly Leu Phe Ile Thr Phe His Tyr Leu Phe Val Pro Leu
 20 25 30
 Ser Met Gly Leu Ser Met Met Leu Val Ile Met Glu Gly Leu Tyr Leu
 35 40 45
 Val Thr Lys Lys Gln Ile Tyr Lys Gln Met Thr Trp Phe Trp Val Gly
 50 55 60
 Ile Phe Ala Leu Thr Phe Val Leu Gly Val Val Thr Gly Ile Met Gln
 65 70 75 80
 Ile Phe Ser Phe Gly Ser Asn Trp Ala Asn Phe Ser Glu Tyr Thr Gly
 85 90 95
 Asn Ile Phe Gly Thr Leu Leu Gly Ser Glu Gly Val Phe Ala Phe Phe
 100 105 110
 Leu Glu Ser Gly Phe Leu Gly Ile Leu Leu Phe Gly Arg His Lys Val
 115 120 125
 Ser Lys Lys Met His Phe Phe Ser Thr Cys Met Val Ala Leu Gly Ala
 130 135 140
 His Met Ser Ala Phe Trp Ile Ile Cys Ala Asn Ser Trp Met Gln Thr
 145 150 155 160
 Pro Ser Gly Tyr Glu Met Val Met His Lys Gly Lys Leu Ile Pro Ala
 165 170 175
 Leu Thr Ser Phe Trp Gly Val Val Phe Ser Pro Thr Thr Ile Asp Arg
 180 185 190
 Phe Ile His Ala Val Leu Gly Thr Trp Leu Ser Gly Val Phe Leu Val
 195 200 205
 Ile Ser Val Ser Ala Tyr Tyr Leu Trp Lys Lys Arg His His Glu Phe
 210 215 220

Ala Lys Gln Gly Met Lys Ile Gly Thr Ile Cys Ala Val Ile Val Leu
 225 230 235 240
 Val Leu Gln Leu Trp Ser Ala Asp Val Thr Ala Arg Gly Val Ala Lys
 245 250 255
 Asn Gln Pro Ala Lys Leu Ala Ala Phe Glu Gly Ile Phe Lys Thr Glu
 260 265 270
 Glu Tyr Thr Pro Ile Trp Ala Phe Gly Tyr Val Asp Met Glu Lys Glu
 275 280 285
 Arg Val Ile Gly Leu Pro Ile Pro Gly Ala Leu Ser Phe Leu Val His
 290 295 300
 Arg Asn Ile Lys Thr Pro Val Thr Gly Leu Asp Gln Ile Pro Arg Asp
 305 310 315 320
 Glu Trp Pro Asn Val Gln Ala Val Phe Gln Leu Tyr His Leu Met Ile
 325 330 335
 Met Leu Trp Gly Val Met Val Ala Leu Thr Leu Ile Ser Trp Ser Ala
 340 345 350
 Tyr Lys Gly Trp Arg Trp Ala Leu Lys Pro Phe Phe Leu Val Ile Leu
 355 360 365
 Thr Phe Ser Val Leu Leu Pro Glu Ile Cys Asn Glu Cys Gly Trp Cys
 370 375 380
 Ala Ala Glu Met Gly Arg Gln Pro Trp Val Val Gln Gly Leu Leu Lys
 385 390 395 400
 Thr Lys Asp Ala Val Ser Pro Ile Val Gln Ala Asn Gln Ile Val Gln
 405 410 415
 Ser Leu Val Ile Phe Ser Leu Val Phe Ile Ala Leu Leu Thr Leu Phe
 420 425 430
 Ile Thr Val Leu Cys Lys Lys Ile Lys His Gly Pro Glu Glu Glu Asn
 435 440 445
 Asp Leu Thr Glu Phe Glu Val Lys
 450 455

<210> 105
 <211> 349
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0103

<400> 105
 Asn Arg Gly Ile Phe Met Glu Leu Ser Leu Thr Ser Leu Leu Pro Leu
 1 5 10 15
 Ala Trp Tyr Val Ile Leu Gly Val Ala Val Phe Ala Tyr Ser Phe Gly
 20 25 30
 Asp Gly Phe Asp Leu Gly Leu Gly Ala Val Tyr Leu Lys Ala Lys Glu
 35 40 45
 Asp Lys Glu Arg Arg Ile Leu Leu Asn Ser Ile Gly Pro Val Trp Asp
 50 55 60
 Gly Asn Glu Val Trp Leu Val Ile Ile Val Gly Gly Leu Phe Ala Gly
 65 70 75 80
 Phe Pro Ala Cys Tyr Ala Thr Leu Leu Ser Ile Phe Tyr Met Pro Ile
 85 90 95
 Trp Thr Leu Val Leu Leu Tyr Ile Phe Arg Gly Cys Ser Leu Glu Phe
 100 105 110
 Arg Ser Lys Ser Glu Ser Val Ser Trp Lys Ile Phe Trp Asp Ile Ile
 115 120 125
 Phe Ile Cys Ser Gly Thr Ala Ile Ser Phe Phe Leu Gly Thr Ile Val
 130 135 140
 Gly Asn Leu Ile Leu Gly Leu Pro Leu Ser Pro Asp Thr Ser Tyr Ala
 145 150 155 160

Ser Leu Ser Trp Ile Leu Phe Phe Arg Pro Tyr Ala Ala Leu Cys Gly
 165 170 175
 Ala Val Val Ala Ser Ala Phe Ala Ile His Gly Ser Cys Phe Ala Leu
 180 185 190
 Met Lys Thr Ser Asp Ser Leu Asn Ala Arg Ile Ala Gln Gln Phe Pro
 195 200 205
 Tyr Ile Leu Ser Ser Phe Leu Val Phe Tyr Val Leu Phe Leu Gly Ala
 210 215 220
 Ser Leu Ile Ser Ile Pro Lys Arg Phe Asp Ala Phe Pro Thr Tyr Pro
 225 230 235 240
 Leu Leu Ile Leu Leu Ile Ala Leu Thr Ser Cys Cys Cys Val Ala Ala
 245 250 255
 Lys Thr Ser Val Ser Lys Lys Arg Tyr Gly Tyr Ala Phe Ile Tyr Ser
 260 265 270
 Thr Leu Asn Leu Leu Ser Leu Ile Leu Ser Ala Ala Thr Leu Thr Phe
 275 280 285
 Pro Asn Ile Leu Leu Ser Thr Val Asp Pro Gln Tyr Ser Tyr Thr Ile
 290 295 300
 Tyr Asn Ser Ala Val Glu Thr Lys Thr Leu Lys Ser Leu Leu Ile Ile
 305 310 315 320
 Val Leu Ile Gly Leu Pro Phe Ile Ile Thr Tyr Thr Cys Tyr Ile Tyr
 325 330 335
 Arg Val Phe Arg Gly Lys Thr Asn Phe Pro Ser Ile Tyr
 340 345

<210> 106
 <211> 403
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0104

<400> 106
 Glu Lys Ser Met Arg Met Leu Gln Ile Ser Met Leu Leu Leu Ala Leu
 1 5 10 15
 Gly Thr Ala Ile Asn Ser Pro Ala Ile Tyr Ala Ala Asp Ser Gln Ser
 20 25 30
 Val Ser Phe Pro Glu Gln Leu Pro Ser Ser Phe Thr Gly Glu Ile Lys
 35 40 45
 Gly Asn His Val Arg Met Arg Leu Ala Pro His Thr Asp Gly Thr Ile
 50 55 60
 Ile Arg Glu Phe Ser Lys Gly Asp Leu Val Ala Val Ile Gly Glu Ser
 65 70 75 80
 Lys Asp Tyr Tyr Val Ile Ser Ala Pro Pro Gly Ile Thr Gly Tyr Val
 85 90 95
 Phe Arg Ser Phe Val Leu Asp Asn Val Val Glu Gly Glu Gln Val Asn
 100 105 110
 Val Arg Leu Glu Pro Ser Thr Ser Ala Pro Val Leu Val Arg Leu Ser
 115 120 125
 Arg Gly Thr Gln Ile Gln Pro Ala Ser Gln Glu Pro His Gly Lys Trp
 130 135 140
 Leu Glu Val Val Leu Pro Ser Gln Cys Val Phe Tyr Val Ala Lys Asn
 145 150 155 160
 Phe Val Ala Asn Lys Gly Pro Ile Glu Leu Tyr Thr Gln Arg Glu Gly
 165 170 175
 Gln Lys Lys Ile Ala Met Asp Leu Ile Asn Ser Ala Leu Asn Phe Ala
 180 185 190
 His Ile Glu Leu Glu Lys Ser Leu Asn Glu Ile Asp Leu Glu Ala Ile
 195 200 205

Tyr Lys Lys Ile Asn Leu Val Gln Ser Glu Glu Phe Lys Asp Val Pro
 210 215 220
 Gly Ile Gln Gly Leu Ile Gln Lys Ala Leu Glu Glu Ile Gln Asp Ala
 225 230 235 240
 Tyr Leu Ser Lys Ser Leu Glu Ser Gln Asn Thr Ser Ile Ala Ser Ser
 245 250 255
 Gln Cys Ser Thr Pro Lys Val Ser Ser Ser Glu Val Thr Thr Ser Leu
 260 265 270
 Leu Ser Arg His Ile Arg Lys Gln Thr Ala Leu Lys Thr Ala Pro Leu
 275 280 285
 Thr Gln Gly Arg Glu Asn Leu Glu Tyr Ser Leu Phe Arg Ile Trp Ala
 290 295 300
 Ser Met Gln Gln Gly Asn Asp His Ser Glu Ala Leu Thr Gln Glu Ala
 305 310 315 320
 Phe Tyr Arg Ala Glu Gln Lys Lys Lys Gln Val Leu Ala Gly Val Leu
 325 330 335
 Glu Val Tyr Pro His Val Val Lys Asn Asn Pro Gly Asp Tyr Leu Leu
 340 345 350
 Lys Ala Gln Glu Asn Thr Ile Ala Phe Leu Tyr Gly Thr Ser Ile Asn
 355 360 365
 Leu Glu Gln Trp Leu Gly Lys Arg Val Thr Val Glu Cys Leu Pro Arg
 370 375 380
 Pro Asn Asn His Phe Ala Phe Pro Ala Tyr Tyr Val Val Gly Ile Lys
 385 390 395 400
 Glu Ala Ser

<210> 107
 <211> 285
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0105

<400> 107
 Tyr Val Pro Phe Arg Lys Phe Ser Asn Gln Asn Pro Met Leu Leu Ile
 1 5 10 15
 Tyr Cys Lys Lys Lys Glu Ile His Leu Gln Trp Pro Gln Thr Ala Lys
 20 25 30
 Ile Arg Phe Thr Pro Lys Ile Ala Met Lys Val Lys Ile Asn Asp Gln
 35 40 45
 Leu Ile Cys Ile Pro Pro Phe Ile Ser Ala Arg Trp Ser Gln Ile Ala
 50 55 60
 Phe Ile Glu Ser Gln Glu Gly Glu Asn Lys Asp Gln Gly Thr Leu Arg
 65 70 75 80
 Leu His Leu Ile Asp Gly Lys Ile Ile Ser Ile Pro Asn Leu Asp Gln
 85 90 95
 Ser Ile Ile Asp Ile Ala Phe Gln Glu His Leu Leu Tyr Leu Glu Thr
 100 105 110
 Ser Gln Ser Gly Lys Glu Asp Ser Arg Asp Asp Asp Lys Leu Gly Val
 115 120 125
 Gly Val Leu Met Asn Val Leu Gln Gln Ile Thr Lys Gly Asn Asp Ile
 130 135 140
 Gln Val Leu Pro Lys Asn Leu Ile Ser Pro Leu Phe Ser Gly Thr Asn
 145 150 155 160
 Pro Ile Glu Ala Ile Leu Gln His Thr Pro Glu His Lys Asp His Pro
 165 170 175
 Asp Ala Pro Thr Asp Val Leu Glu Lys Met Ala Asp Val Ile Arg Val
 180 185 190

Leu Ser Gly Asn Asn Ala Thr Leu Leu Pro Arg Pro Glu Pro His Cys
 195 200 205
 Asn Cys Met His Cys Gln Ile Gly Arg Val Met Asn Glu Glu Asp Thr
 210 215 220
 Leu Ala Val Ser Asp Lys Asp Leu Thr Phe Arg Thr Trp Asp Ile Met
 225 230 235 240
 Gln Ser Gly Asp Lys Leu Tyr Ile Val Thr Asn Pro Leu Asn Pro Ser
 245 250 255
 Asp Gln Phe Ser Val Tyr Leu Gly Pro Pro Ile Gly Cys Thr Cys Gly
 260 265 270
 Glu Pro Asn Cys Glu His Ile Lys Ala Val Leu Tyr Thr
 275 280 285

<210> 108

<211> 434

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0106

<400> 108

Glu Lys Val Arg Thr Gln Met Lys Lys Thr Met Val Ile Asp Thr Ser
 1 5 10 15
 Val Phe Ile Tyr Asp Pro Glu Ala Leu Phe Ser Phe Glu Asn Thr Arg
 20 25 30
 Ile Ile Ile Pro Phe Pro Val Ile Glu Glu Leu Glu Ala Phe Gly Lys
 35 40 45
 Phe Arg Asp Glu Ser Ala Lys Asn Ala Ser Arg Ala Leu Ser Asn Ile
 50 55 60
 Arg Leu Leu Leu Glu Asn Ala Lys Thr Lys Val Thr Asp Gly Val Leu
 65 70 75 80
 Leu Pro Ser Gly Ser Glu Leu Arg Ile Glu Val Ala Pro Leu Ser Asn
 85 90 95
 Asp Asp Arg Arg Gly Lys Leu Leu Thr Leu Glu Leu Leu Lys Ile Ile
 100 105 110
 Ala Lys Arg Glu Pro Met Val Phe Val Thr Lys Ser Leu Gly Arg Arg
 115 120 125
 Val Arg Ala Glu Ala Leu Gln Ile Glu Ser Arg Asp Tyr Glu Ser Lys
 130 135 140
 Arg Phe Ser Phe Arg Ser Leu Tyr Arg Gly Phe Arg Glu Leu Gln Val
 145 150 155 160
 Ser Gln Glu Asp Ile Glu Asn Phe Tyr Lys Asn Gly Tyr Leu Asp Leu
 165 170 175
 Pro Leu Asp Val Val Ser Ser Pro Asn Glu Tyr Phe Phe Met Ser Ala
 180 185 190
 Gly Glu Asn His Phe Ala Leu Gly Arg Tyr Tyr Val Ser Glu Gly Lys
 195 200 205
 Ile Ile Ala Leu Lys Ala Met Asp Lys Ser Val Trp Gly Ile Lys Pro
 210 215 220
 Leu Asn Thr Glu Gln Arg Cys Ala Leu Asp Leu Leu Leu Arg Asp Asp
 225 230 235 240
 Val Lys Leu Val Thr Leu Ile Gly Gln Ala Gly Ser Gly Lys Thr Ile
 245 250 255
 Leu Ala Leu Ala Ala Ala Met His Lys Val Phe Asp Lys Glu Thr Tyr
 260 265 270
 Asn Lys Val Leu Val Ser Arg Pro Ile Val Pro Met Gly Arg Asp Ile
 275 280 285
 Gly Phe Leu Pro Gly Leu Lys Glu Asp Lys Leu Met His Trp Met Gln
 290 295 300

Pro Ile Tyr Asp Asn Met Glu Val Leu Phe Ser Ile Asn Gln Met Gly
 305 310 315 320
 Asn Ser Ser Glu Ala Leu Gln Ala Leu Met Asp Ala Lys Lys Leu Glu
 325 330 335
 Met Glu Ala Leu Thr Tyr Ile Arg Gly Arg Ser Leu Pro Lys Ala Phe
 340 345 350
 Ile Ile Ile Asp Glu Ala Gln Asn Leu Thr Pro His Glu Ile Lys Thr
 355 360 365
 Ile Ile Ser Arg Ala Gly Lys Gly Thr Lys Ile Val Leu Thr Gly Asp
 370 375 380
 Pro Thr Gln Ile Asp Ser Leu Tyr Phe Asp Glu Asn Ser Asn Gly Leu
 385 390 395 400
 Thr Tyr Leu Val Gly Lys Phe His His Leu Ala Leu Tyr Gly His Met
 405 410 415
 Phe Met Thr Arg Thr Glu Arg Ser Glu Leu Ala Ala Ala Ala Thr
 420 425 430
 Ile Leu

<210> 109
 <211> 310
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0107

<400> 109
 Lys Lys Ser Pro Pro Pro Val Thr Pro Lys Glu Ile Pro Thr Gln Pro
 1 5 10 15
 Lys Pro Pro Ile Pro Gln Arg Pro Glu Val Ser Pro Thr Pro Thr Asp
 20 25 30
 His Ile Val Pro Gly Ser Ile Glu Ala Ser Pro Ile Leu Gly Lys Lys
 35 40 45
 Pro Ser Pro Asp Ser Met Val Ser Pro Leu Ser Leu Phe His Lys Met
 50 55 60
 Leu Leu Glu Asn Trp Thr Pro Val Glu Glu Pro Phe Pro Trp Pro Pro
 65 70 75 80
 Ala Glu Lys Asn Gln Lys Ile Phe Ala Trp Ala Leu Asn Gln Ser Lys
 85 90 95
 Leu Ile Phe Val Ser Thr Ser Gly Asn Ile Ala Gln Pro Arg Leu Val
 100 105 110
 Thr Asp Ser Met Ser Met Met Ile Val Asn Ala Ala Asn Arg Thr Met
 115 120 125
 Ser Arg Asp Gly Ala Gly Thr Asn Gln Val Leu Ser Ala Ala Val Ser
 130 135 140
 Val Asp Ser Trp Gly Leu Ser Gln Arg Pro Leu Asn Pro Glu Arg Gln
 145 150 155 160
 Gly Thr Pro Leu Asn Glu Gly Glu Cys Arg Ala Gly Met Trp Arg Asn
 165 170 175
 Ala Asp Gly Ser Asn His Thr Gly Lys Gln Gly Lys Pro His Tyr Leu
 180 185 190
 Ala Gln Leu Leu Gly Pro Lys Ala Val Asp His His Asn Lys Ser Gln
 195 200 205
 Ala Ala Phe Asp Arg Cys Lys Asn Ala Tyr Leu Asn Cys Phe Ser Leu
 210 215 220
 Ala Gln Thr Leu Gly Val Thr Phe Leu Gln Ile Pro Leu Ile Ser Ser
 225 230 235 240
 Gly Ile Tyr Ala Pro Pro Glu Asn Arg Lys Lys Pro Asn Ser Glu Glu
 245 250 255

Asn Lys Val Arg Met Arg Trp Ile His Ala Val Lys Cys Ala Leu Val
 260 265 270
 Ala Ala Met Gln Glu Phe Gly Asn Glu Pro Gly Asn Thr Asp Arg Arg
 275 280 285
 Met Leu Ile Val Leu Thr Asp Leu Lys Thr Pro Ala Ile Thr Asp Pro
 290 295 300
 Lys Lys Lys Ser His Leu
 305 310

<210> 110
 <211> 195
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0108

<400> 110
 Lys Asn Leu Phe His Tyr Lys Ala Ile Leu Met Ser Ile Phe Asn Glu
 1 5 10 15
 Glu Val Phe Ile Ile Ser His Arg His Thr Pro Leu Gly Gln Thr Ser
 20 25 30
 Thr Ala Leu Arg Asn Thr Pro Leu Val Asn Pro Leu His Arg Thr Asn
 35 40 45
 Leu Gln Arg Ile Ala Ser Tyr Ile Pro Ile Phe Ser Thr Phe Ile Gly
 50 55 60
 Ile Lys Thr Leu Lys Gly Ile Ser Ser Leu Gln Tyr Ser Met Val Leu
 65 70 75 80
 Met Thr Gly Asn Phe Ser Ser Val Cys Lys Thr Leu Pro Cys Pro Glu
 85 90 95
 Ile Tyr Glu Glu Leu Pro Lys Val Arg Lys Glu Ala Trp Leu Glu Ile
 100 105 110
 Phe Gly Ile Lys Ala Leu Tyr Tyr Leu Val Leu Gly Val Ile Lys Ile
 115 120 125
 Ile Lys Leu Ile Val Arg Tyr Leu Cys Pro Cys Cys Arg Pro Pro Glu
 130 135 140
 Pro Arg Glu Pro Gln Asn Pro Leu Thr Pro Thr Pro Leu Asp Met Gly
 145 150 155 160
 Gln Gln Ile Asp Ala Ile Phe Ser Thr Pro Thr Ser Pro Thr Gly Phe
 165 170 175
 Lys Asp Pro Phe Leu Asp Asp Leu Leu Gln Glu Asp Lys Lys Lys Ala
 180 185 190
 Pro His Leu
 195

<210> 111
 <211> 1046
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0109

<400> 111
 Arg Gln Lys Met Thr Ala Asp Glu Val Gly Lys Asn Ser Phe Ala Lys
 1 5 10 15
 Lys Glu Glu Gln Val Leu Lys Phe Trp Lys Asp Asn Gln Ile Phe Glu
 20 25 30
 Lys Ser Leu Gln Asn Arg Gln Gly Lys Thr Leu Tyr Ser Phe Tyr Asp
 35 40 45

Gly Pro Pro Phe Ala Thr Gly Leu Pro His Tyr Gly His Leu Leu Ala
 50 55 60
 Ser Thr Ile Lys Asp Val Val Gly Arg Tyr Ala Thr Met Asp Gly Tyr
 65 70 75 80
 Tyr Val Pro Arg Arg Phe Gly Trp Asp Cys His Gly Val Pro Val Glu
 85 90 95
 Tyr Glu Val Glu Lys Ser Leu Ser Leu Thr Ala Pro Gly Ala Ile Glu
 100 105 110
 Asp Phe Gly Ile Ala Ser Phe Asn Glu Glu Cys Arg Lys Ile Val Phe
 115 120 125
 Arg Tyr Val His Glu Trp Glu Tyr Tyr Ile Asn Arg Ile Gly Arg Trp
 130 135 140
 Val Asp Phe Ser Ser Thr Trp Lys Thr Met Asp Ala Ser Phe Met Glu
 145 150 155 160
 Ser Val Trp Trp Val Phe Gln Ser Leu Tyr Asn Gln Gly Leu Val Tyr
 165 170 175
 Glu Gly Thr Lys Val Val Pro Phe Ser Thr Ala Leu Gly Thr Pro Leu
 180 185 190
 Ser Asn Phe Glu Ala Ser Gln Asn Tyr Lys Glu Val Asp Asp Pro Ser
 195 200 205
 Leu Val Val Arg Met Pro Leu Gln Asn Asp Ser Ala Ser Leu Leu Val
 210 215 220
 Trp Thr Thr Thr Pro Trp Thr Leu Pro Ser Asn Met Ala Ile Ala Val
 225 230 235 240
 Gly Glu Thr Leu Val Tyr Val Arg Ile Gln Asp Lys Lys Ser Gly Glu
 245 250 255
 Gln Trp Ile Leu Ser Gln Gly Cys Val Ser Arg Trp Phe Ser Asn Pro
 260 265 270
 Glu Glu Phe Val Ile Leu Glu Ser Phe Ser Gly Lys Asp Leu Val Gly
 275 280 285
 Arg Thr Tyr Glu Pro Pro Phe Thr Phe Phe Gln Ser Lys Arg Glu Glu
 290 295 300
 Gly Ala Phe Arg Val Ile Ala Ala Ser Phe Val Glu Glu Ser Glu Gly
 305 310 315 320
 Thr Gly Val Val His Met Ala Pro Ala Phe Gly Glu Gly Asp Phe Leu
 325 330 335
 Val Cys Lys Glu Asn His Val Pro Leu Val Cys Pro Val Asp Ala His
 340 345 350
 Gly Ser Phe Thr Glu Glu Ile Pro Gln Tyr Gln Gly Gln Tyr Ile Lys
 355 360 365
 His Ala Asp Lys Glu Ile Ile Lys Phe Leu Lys Lys Glu Gly Arg Ile
 370 375 380
 Phe Tyr His Gly Thr Val Lys His Arg Tyr Pro Phe Cys Trp Arg Thr
 385 390 395 400
 Asp Thr Pro Leu Ile Tyr Lys Ala Val Asn Ser Trp Phe Val Ala Val
 405 410 415
 Glu Lys Ile Lys Asp Lys Met Leu Arg Ala Asn Ser Ser Ile His Trp
 420 425 430
 Val Pro Glu His Ile Gln Glu Gly Arg Phe Gly Lys Trp Leu Glu Gly
 435 440 445
 Ala Arg Asp Trp Ala Ile Ser Arg Asn Arg Tyr Trp Gly Thr Pro Ile
 450 455 460
 Pro Ile Trp Lys Ser Ala Asp Gly Glu Ile Leu Val Val Gly Ser Ile
 465 470 475 480
 Arg Glu Leu Glu Glu Leu Thr Gly Thr Gln Ile Thr Asp Ile His Arg
 485 490 495
 His Phe Ile Asp Asp Leu Asn Ile Val Lys Asp Gly Lys Pro Phe His
 500 505 510
 Arg Ile Pro Tyr Val Phe Asp Cys Trp Phe Asp Ser Gly Ala Met Pro
 515 520 525

Tyr Ala Gln Asn His Tyr Pro Phe Glu Asn Gln Lys Glu Thr Glu Glu
530 535 540
Ala Phe Pro Ala Asp Phe Ile Ala Glu Gly Leu Asp Gln Thr Arg Gly
545 550 555 560
Trp Phe Tyr Thr Leu Thr Val Ile Ser Ala Ile Leu Phe Asp Arg Pro
565 570 575
Ala Phe Arg Asn Ala Ile Val Asn Gly Ile Ile Leu Ala Glu Asp Gly
580 585 590
Asn Lys Met Ser Lys Arg Leu Asn Asn Tyr Pro Ser Pro Lys Tyr Val
595 600 605
Leu Asp Thr Tyr Gly Ala Asp Ala Leu Arg Leu Tyr Leu Leu His Ser
610 615 620
Val Val Val Lys Ala Glu Asp Leu Arg Phe Ser Asp Lys Gly Ile Glu
625 630 635 640
Gly Val Leu Lys Gln Ile Leu Leu Pro Leu Thr Asn Val Leu Ser Phe
645 650 655
Phe Asn Thr Tyr Ala Glu Leu Tyr Gly Phe Asp Pro Lys Ser Gln Asp
660 665 670
Ile Glu Pro Ala Tyr Thr Glu Ile Asp Gln Trp Ile Leu Ser Asn Leu
675 680 685
Tyr Ser Val Val Gly Lys Val Arg Glu Ser Met Ser Gln Tyr His Leu
690 695 700
Asn Phe Ala Val Glu Pro Phe Val Thr Phe Ile Asp Asp Leu Thr Asn
705 710 715 720
Trp Tyr Ile Arg Arg Cys Arg Arg Arg Phe Trp Glu Ala Glu Asp Thr
725 730 735
Pro Asp Arg Arg Ala Ala Phe Ser Thr Leu Tyr Glu Val Leu Thr Val
740 745 750
Phe Cys Lys Val Ile Ala Pro Phe Val Pro Phe Leu Ala Glu Asp Ile
755 760 765
Tyr Gln Lys Leu Lys Leu Glu Lys Glu Pro Glu Ser Val His Leu Cys
770 775 780
Asp Phe Pro Gln Val Glu Met Asp Lys Ile Leu Pro Asp Leu Glu Lys
785 790 795 800
Arg Met His Asp Ile Arg Glu Ile Val Gly Leu Gly His Ser Leu Arg
805 810 815
Lys Glu His Lys Leu Lys Val Arg Gln Pro Leu Ala Asn Phe Tyr Val
820 825 830
Val Gly Ser Lys Asp Arg Leu Ser Leu Leu Lys Thr Phe Glu Gly Leu
835 840 845
Ile Ala Glu Glu Leu Asn Val Lys Asn Val Ile Phe Tyr Glu Glu Ala
850 855 860
Pro Ser Phe Ile Tyr Thr Thr Val Lys Pro Asn Phe Arg Met Leu Gly
865 870 875 880
Lys Lys Val Gly Ser Lys Met Lys Glu Val Gln Lys Ala Leu Ser Glu
885 890 895
Leu Pro Asn Asn Ala Ile Asp Lys Leu Ile Gln Glu Glu Thr Trp Val
900 905 910
Leu Thr Ile Asp Asp Arg Glu Ile Ala Leu Asp Gly Asp Asp Val Val
915 920 925
Ile Cys Arg His Thr Asp Pro Gly Tyr Ile Ala Arg Ser Ser Ala Leu
930 935 940
Phe Ser Val Ile Leu Asp Cys Gln Leu Arg Glu Pro Leu Ile Val Glu
945 950 955 960
Gly Ile Ala Arg Glu Leu Val Asn Lys Ile Asn Thr Met Arg Arg Asn
965 970 975
Gln Gln Leu His Val Ser Asp Arg Ile Ala Leu Arg Ile Lys Thr Thr
980 985 990
Glu Ala Val His Arg Ala Phe Leu Asp Tyr Glu Asn Tyr Ile Cys Glu
995 1000 1005

Glu Thr Leu Ile Ile Ala Tyr Asp Phe Thr Gln Asp Ser Asp Phe Gln
 1010 1015 1020
 Gly Glu Asn Trp Asp Ile Asn Gly His Ala Thr Gln Ile Glu Ile Thr
 1025 1030 1035 1040
 Val Ser Ser Ile Asp Ser
 1045

<210> 112
 <211> 643
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0110

<400> 112
 Leu Ser Tyr Pro Ser Ile Phe Met Lys Gln His Tyr Ser Leu Asn Lys
 1 5 10 15
 Ser Arg His Ile Leu Arg Ser Thr Tyr Lys Leu Leu Lys Ser Lys Lys
 20 25 30
 Leu Ala His Ser Pro Ala Asp Lys Lys Gln Leu Gln Glu Leu Leu Glu
 35 40 45
 Gln Leu Glu Glu Ala Ile Phe Glu His Asp Gln Glu Thr Ala Ser Asp
 50 55 60
 Leu Ala Gln Gln Ala Leu Ala Phe Ser Asn Arg Tyr Pro Asn Ser Phe
 65 70 75 80
 Gly Arg Lys Thr Tyr Glu Leu Ile Lys Ala Leu Leu Phe Ala Gly Val
 85 90 95
 Val Ala Phe Leu Val Arg Gln Phe Trp Phe Glu Leu Tyr Glu Val Pro
 100 105 110
 Thr Gly Ser Met Arg Pro Thr Ile Leu Glu Gln Asp Arg Ile Leu Val
 115 120 125
 Ser Lys Thr Thr Phe Gly Leu His Cys Pro Phe Ala Lys Lys Pro Leu
 130 135 140
 Ala Phe Asn Pro Glu Ser Val Thr Arg Gly Gly Leu Val Val Phe Thr
 145 150 155 160
 Val Gly Asp Leu Pro Ile Pro Asp Ala Asp Thr Lys Tyr Phe Gly Leu
 165 170 175
 Ile Pro Gly Lys Lys Arg Tyr Ile Lys Arg Cys Met Gly Arg Pro Gly
 180 185 190
 Asp Phe Leu Tyr Phe Tyr Gly Gly Lys Ile Tyr Gly Leu Asp Asp Ala
 195 200 205
 Gly Lys Arg Ile Glu Phe Pro Ser Val His Gly Leu Glu Asn Leu Tyr
 210 215 220
 His Val Pro Tyr Ile Ser Phe Asp Gly Thr Thr Ser Ser His Thr Glu
 225 230 235 240
 Gly Gln Lys Thr Ile Ile Asp Phe Lys Gln Phe Asn Gln Ser Tyr Gly
 245 250 255
 Arg Leu Ile Phe Pro Gln Thr Ser Met Tyr Gly Gln Phe Phe Asp His
 260 265 270
 Lys Glu Trp His Gln Asp Glu Pro Asn Lys Leu Lys Asp Pro His Leu
 275 280 285
 Ser Pro Val Ser Tyr Ala Asp Leu Phe Gly Met Gly Asn Tyr Ala Met
 290 295 300
 Val Arg Ile Leu Thr Glu His Gln Ala Arg Thr Ser His Leu Leu Pro
 305 310 315 320
 Asn Pro Gly Ser Pro Thr Lys Val Tyr Leu Glu Ile Cys His Thr Ala
 325 330 335
 Asn Leu Ser Tyr Pro Lys Pro Leu Leu Arg His Tyr Glu His Gln Leu
 340 345 350

Ser Pro Ala Ile Gln Pro Met Lys Thr Leu Leu Pro Leu Arg Lys Glu
 355 360 365
 His Leu His Leu Ile Arg Asn Asn Leu Thr Thr Ser Arg Phe Ile Val
 370 375 380
 Ala Gln Gly Cys Ala Tyr Lys Tyr His Gln Phe Lys Ile Asn Thr Ser
 385 390 395 400
 Gly Ile Ala Lys Ala Tyr Ala Ile Leu Leu Pro Lys Val Pro Asp Gly
 405 410 415
 Cys Tyr Glu Tyr Ser Lys Gly Glu Ala Tyr Gln Ile Gly Phe Gly Glu
 420 425 430
 Ile Arg Tyr Lys Leu Lys Ser Ser His Pro Leu Thr Gln Leu Asn Asp
 435 440 445
 Lys Gln Val Ile Glu Leu Phe Asn Cys Gly Ile Asn Phe Ser Ser Ile
 450 455 460
 Tyr Asn Pro Val Asn Pro Leu Gln Ala Pro Leu Pro Asn Arg Tyr Ala
 465 470 475 480
 Phe Phe Asn Gln Gly Asn Leu Tyr Ile Met Asp Ser Pro Val Phe Ile
 485 490 495
 Lys Asn Asp Pro Thr Leu Gln Lys Phe Val Thr Ser Glu Thr Glu Lys
 500 505 510
 Gln Glu Gly Ser Ser Glu Thr Gln Pro Tyr Ile Ala Phe Val Asp Lys
 515 520 525
 Gly Leu Pro Pro Glu Asp Phe Lys Glu Phe Val Glu Phe Ile His Asn
 530 535 540
 Phe Gly Ile Gln Val Pro Lys Gly His Val Leu Val Leu Gly Asp Asn
 545 550 555 560
 Tyr Pro Met Ser Ala Asp Ser Arg Glu Phe Gly Phe Val Pro Met Glu
 565 570 575
 Asn Leu Leu Gly Ser Pro Leu Cys Thr Phe Trp Pro Ile Gly Arg Met
 580 585 590
 Gly Arg Leu Thr Gly Val Ser Ala Pro Thr Thr Leu Ser Gly Tyr Leu
 595 600 605
 Val Ser Gly Ile Ala Leu Ala Thr Gly Leu Ser Leu Ile Gly Tyr Val
 610 615 620
 Tyr Tyr Gln Lys Arg Arg Leu Phe Pro Lys Lys Glu Glu Lys Asn
 625 630 635 640
 His Lys Lys

<210> 113
 <211> 276
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0111

<400> 113
 Gln Leu Gln Asn Arg Tyr Pro Ile Met Pro Asn Asp Ser Ser Thr Tyr
 1 5 10 15
 Phe Glu Arg Ile Leu Gln Lys Tyr Leu Met Lys Lys Gln Gly Lys Thr
 20 25 30
 Leu Phe Leu Phe Leu Phe Leu Ser Phe Leu Phe Ser Thr Ala Phe Ser
 35 40 45
 Gly Leu Phe Ala Ser Gln Thr Ser Ser Leu Arg Thr Ile Gln Glu Asn
 50 55 60
 Ile Phe Leu Ala Lys Thr Gly Asp Tyr Thr Val Leu Ser Arg Gly Ser
 65 70 75 80
 Gln Arg Thr Phe Val Leu Val Lys Ser Thr Thr Pro Lys Thr Val Trp
 85 90 95

Ile Glu Ile Ile His Phe Pro Cys Ile Ala His Lys Glu Arg Pro Ser
 100 105 110
 Leu Glu Gln Ala Ser Trp Lys Thr Val Ile His Gln Leu Glu Ser Pro
 115 120 125
 Ser Gln Val Phe Val Val Ser Leu Ser Ser Glu Gly Ser Gln Phe Phe
 130 135 140
 Ser Leu Asn Thr Arg Thr Lys Ser Leu Glu Pro Val Gly Lys Ser Thr
 145 150 155 160
 Thr Val Pro Ala Phe Leu Gln Ile Phe Asp Leu Pro Leu Ser Pro Ala
 165 170 175
 Pro Ala Asn Val Ile Lys Thr Lys Gly Lys Glu Asn Lys Pro Trp Ser
 180 185 190
 Pro Lys Val Ser Phe Glu Gly Ala Pro Leu Thr Ser Ile Ser Val Asn
 195 200 205
 Ala Trp Gln Gly Leu Trp Pro Lys Asp Arg Gly Pro Leu Ser Glu Thr
 210 215 220
 Gly Ile Leu Met Tyr Phe Thr Gln Pro Asp Ile Ser Val Phe Pro Leu
 225 230 235 240
 Trp Val Ser Ile Glu Thr Pro Lys Gly Thr Ser Ile Val Arg Ala Val
 245 250 255
 Asp Ile Gly His Gly Ala Thr Ser Pro Tyr Val Tyr Ser Leu Pro Asp
 260 265 270
 Ser Lys Thr Gln
 275

<210> 114
 <211> 117
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0112

 <400> 114
 Asp Ser Asp Phe Gly Val Val Asn Met Lys Lys Asn Thr His Pro Glu
 1 5 10 15
 Tyr Arg Gln Val Leu Phe Val Asp Ser Ser Thr Gly Tyr Lys Phe Val
 20 25 30
 Cys Gly Ser Thr Tyr Gln Ser Glu Lys Thr Glu Val Phe Glu Gly Lys
 35 40 45
 Glu Tyr Pro Val Cys Tyr Val Ser Val Ser Ser Ser His Pro Phe
 50 55 60
 Phe Thr Gly Ser Lys Lys Phe Val Asp Ala Glu Gly Arg Val Asp Lys
 65 70 75 80
 Phe Leu Lys Arg Tyr Ser Asn Val Arg Gln Pro Ala Gln Gln Pro Gln
 85 90 95
 Pro Glu Glu Asp Ala Leu Pro Ala Ala Lys Gly Lys Lys Lys Val Val
 100 105 110
 Thr Lys Lys Lys Lys
 115

<210> 115
 <211> 359
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0113

<400> 115
 Gly Phe Met Lys Lys Lys Val Ala Glu Tyr Leu Asn Arg Leu Ala Glu
 1 5 10 15
 Val Glu Ile Lys Ile Ser Asn Pro Glu Ile Phe Ser Asn Ser Lys Glu
 20 25 30
 Tyr Ser Ala Leu Ser Lys Glu His Ser Tyr Leu Leu Glu Leu Lys Asn
 35 40 45
 Ala Tyr Asp Lys Ile Leu Asn Leu Glu Lys Val Leu Ala Asp Asp Lys
 50 55 60
 Gln Ala Leu Ala Ile Glu Lys Asp Pro Glu Met Val Val Met Leu Glu
 65 70 75 80
 Glu Gly Ile Asn Glu Asn Lys Val Glu Leu Glu Lys Leu Asn Lys Ile
 85 90 95
 Leu Glu Ser Leu Leu Val Pro Pro Asp Pro Asp Asp Asp Leu Asn Val
 100 105 110
 Ile Met Glu Leu Arg Ala Gly Thr Gly Gly Glu Glu Ala Ala Leu Phe
 115 120 125
 Val Gly Asp Cys Val Arg Met Tyr His Leu Tyr Ala Ser Ser Lys Gly
 130 135 140
 Trp Lys Tyr Glu Val Leu Ser Ala Ser Glu Ser Asp Leu Lys Gly Tyr
 145 150 155 160
 Lys Glu Tyr Val Met Gly Ile Ser Gly Thr Gly Val Lys Arg Leu Leu
 165 170 175
 Gln Tyr Glu Ala Gly Thr His Arg Val Gln Arg Val Pro Glu Thr Glu
 180 185 190
 Thr Gln Gly Arg Val His Thr Ser Ala Ile Thr Ile Ala Val Leu Pro
 195 200 205
 Glu Pro Ser Glu Glu Asp Thr Glu Leu Leu Ile Asn Glu Lys Asp Leu
 210 215 220
 Lys Ile Asp Thr Phe Arg Ala Ser Gly Ala Gly Gly Gln His Val Asn
 225 230 235 240
 Val Thr Asp Ser Ala Val Arg Ile Thr His Leu Pro Thr Gly Val Val
 245 250 255
 Val Thr Cys Gln Asp Glu Arg Ser Gln His Lys Asn Lys Asp Lys Ala
 260 265 270
 Met Arg Ile Leu Lys Ala Arg Ile Arg Asp Ala Glu Met Gln Lys Arg
 275 280 285
 His Asn Glu Ala Ser Ala Met Arg Ser Ala Gln Val Gly Ser Gly Asp
 290 295 300
 Arg Ser Glu Arg Ile Arg Thr Tyr Asn Phe Ser Gln Asn Arg Val Thr
 305 310 315 320
 Asp His Arg Ile Gly Leu Thr Leu Tyr Asn Leu Asp Lys Val Met Glu
 325 330 335
 Gly Asp Leu Asp Pro Ile Thr Thr Ala Met Val Ser His Ala Tyr His
 340 345 350
 Gln Leu Leu Glu His Gly Asn
 355

<210> 116
 <211> 297
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0114

<400> 116
 Val Met Pro Thr Thr Ser Tyr Ser Asn Met Glu Ile Lys Lys Ala Ile
 1 5 10 15
 Gln Glu Gly Thr Ala Tyr Leu Asp Tyr Tyr Gly Val Pro Leu Ser Asp
 20 25 30

Cys Glu Ala Leu Tyr Ile Leu Met Asp Leu Leu Glu Val Ser Ser Arg
 35 40 45
 Ala Lys Leu Phe Asp Leu Val Gly Ile Ser Glu Thr Met Leu Met Glu
 50 55 60
 Tyr Arg Lys Arg Leu Ala Leu Arg Gly Gln Arg Cys Pro Thr Ala Tyr
 65 70 75 80
 Leu Asn Gly Ala Val Ser Phe Leu Gly Leu Arg Leu Arg Val Asp Ser
 85 90 95
 Arg Val Leu Ile Pro Arg Thr Glu Thr Glu Leu Leu Ala Glu Tyr Ile
 100 105 110
 Ile Asn Tyr Leu Leu Ser His Ser Glu Ile Gln Thr Phe Tyr Asp Ile
 115 120 125
 Cys Cys Gly Ser Gly Cys Leu Gly Leu Ala Ile Lys Lys Ser Cys Pro
 130 135 140
 His Val Glu Val Val Leu Ser Asp Val Cys Pro Gln Ala Val Ala Val
 145 150 155 160
 Ala Asn Glu Asn Ala Lys Ser Asn Gly Leu Asp Val Lys Ile Leu Leu
 165 170 175
 Gly Asp Leu Ser Ala Pro Tyr Thr Arg Pro Ala Asp Ala Phe Val Cys
 180 185 190
 Asn Pro Pro Tyr Leu Ser Phe Asn Glu Ile Ile His Ile Asp Pro Glu
 195 200 205
 Val Arg Cys Tyr Glu Pro Trp Lys Ala Leu Val Gly Gly Ser Thr Gly
 210 215 220
 Leu Glu Phe Tyr Gln Arg Ile Ala Gln Glu Leu Pro Lys Ile Val Thr
 225 230 235 240
 Ser Thr Gly Val Gly Trp Leu Glu Ile Gly Ser Ser Gln Gly Glu Ser
 245 250 255
 Ile Lys Asn Ile Phe Ser Lys His Gly Ile Tyr Gly Arg Leu His Gln
 260 265 270
 Asp Leu Ser Gly Arg Asp Arg Ile Phe Phe Leu Glu Met Asp Gly Arg
 275 280 285
 Asp Pro Val Ser Ser Gly Ala Tyr Ser
 290 295

<210> 117
 <211> 448
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0115

<400> 117
 Met Ile Asn Ser Leu Ser Gln Lys Leu Ser Ser Ile Phe Ser Phe Leu
 1 5 10 15
 Val Ser Ser Arg Arg Ile Asn Glu Glu Asn Ile Ser Glu Ser Ile Arg
 20 25 30
 Glu Val Arg Leu Ala Leu Leu Asp Ala Asp Val Asn Tyr His Val Val
 35 40 45
 Lys Asp Phe Ile Ser Lys Val Lys Glu Lys Ile Leu Gly Glu Glu Ile
 50 55 60
 Trp Lys His Val Ser Pro Gly Gln Gln Phe Ile Arg Cys Leu His Glu
 65 70 75 80
 Glu Leu Val Ala Phe Leu Ser Asp Gly Arg Glu Glu Phe Thr Ile Gln
 85 90 95
 Lys Thr Pro Ser Ile Ile Leu Leu Cys Gly Leu Gln Gly Ala Gly Lys
 100 105 110
 Thr Thr Thr Ala Ala Lys Leu Ala Asp Tyr Val Ile Lys Asn Lys Lys
 115 120 125

Ala Lys Lys Val Leu Val Val Pro Cys Asp Leu Lys Arg Phe Ala Ala
 130 135 140
 Val Asp Gln Leu Lys Ile Leu Val Ala Gln Thr Lys Ala Glu Phe Tyr
 145 150 155 160
 Gln Ser Gln Glu Asn Lys Pro Ile Asn Val Val Val Lys Ala Leu Ala
 165 170 175
 Tyr Ala Lys Glu Asn Gly His Asp Phe Val Ile Leu Asp Thr Ala Gly
 180 185 190
 Arg Leu Asn Ile Asp Asn Glu Leu Met Glu Glu Leu Thr Ala Ile Gln
 195 200 205
 Lys Val Ser Gln Ala Asn Glu Arg Leu Phe Val Met Asn Val Ala Met
 210 215 220
 Gly Gln Asp Val Leu Ala Thr Val Gln Ala Phe Asp Gln Ser Leu Asp
 225 230 235 240
 Leu Thr Gly Val Ile Leu Ser Met Thr Asp Gly Asp Ala Arg Ala Gly
 245 250 255
 Ala Val Phe Ser Ile Lys His Val Leu Gly Lys Pro Ile Lys Phe Glu
 260 265 270
 Gly Cys Gly Glu Arg Ile Gln Asp Leu Arg Ser Phe Asp Pro Gln Ser
 275 280 285
 Met Ala Glu Arg Ile Leu Gly Met Gly Asp Thr Ile Asn Phe Val Lys
 290 295 300
 Glu Met Arg Glu Tyr Ile Ser Glu Glu Glu Asp Ala Glu Leu Gly Lys
 305 310 315 320
 Lys Leu Val Thr Ala Ala Phe Thr Tyr Glu Asp Tyr Tyr Lys Gln Met
 325 330 335
 Lys Ala Phe Arg Arg Met Gly Pro Leu Arg Lys Leu Leu Gly Met Met
 340 345 350
 Pro Gly Phe Asn Asn Ala Lys Pro Ser Gln Lys Glu Ile Glu Asp Ser
 355 360 365
 Glu Gln Gln Met Lys Arg Thr Glu Ala Ile Ile Leu Ser Met Thr Pro
 370 375 380
 Glu Glu Arg Lys Glu Leu Val Glu Leu Asp Met Ser Arg Met Lys Arg
 385 390 395 400
 Ile Ala Ser Gly Cys Gly Leu Thr Leu Gly Asp Val Asn Gln Phe Arg
 405 410 415
 Lys Gln Met Ser Gln Ser Lys Lys Phe Phe Lys Gly Met Ser Lys Gly
 420 425 430
 Lys Met Glu Gln Val Arg Lys Lys Met Ser Gly Gly Asn Gln Trp Arg
 435 440 445

<210> 118
 <211> 127
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0116

<400> 118
 Glu Lys Asn Val Arg Arg Lys Ser Val Ala Leu Lys Ile Arg Leu Arg
 1 5 10 15
 Gln Gln Gly Arg Arg Asn His Val Val Tyr Arg Leu Val Leu Ala Asp
 20 25 30
 Val Glu Ser Pro Arg Asp Gly Lys Tyr Ile Glu Leu Leu Gly Trp Tyr
 35 40 45
 Asp Pro His Ser Ser Ile Asn Tyr Gln Leu Lys Ser Glu Arg Ile Phe
 50 55 60
 Tyr Trp Leu Glu Arg Gly Ala Gln Leu Ser Ser Lys Ala Glu Ala Leu
 65 70 75 80

Val Lys Gln Gly Ala Pro Gly Val Tyr Ser Ala Leu Leu Ser Lys Gln
85 90 95
Glu Ala Arg Lys Leu Val Val Arg Lys Lys Arg Arg Ala Tyr Arg Gln
100 105 110
Arg Arg Ser Thr Gln Arg Glu Glu Ala Ala Lys Asp Ala Thr Lys
115 120 125

<210> 119
<211> 363
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0117

<400> 119
Thr Gly Met Lys Ile Asp Ile Leu Ser Leu Phe Pro Gly Tyr Phe Asp
1 5 10 15
Gly Pro Leu Gln Thr Ser Ile Leu Gly Arg Ala Ile Lys Gln Arg Leu
20 25 30
Leu Asp Val Gln Leu Thr Asn Leu Arg Asp Phe Gly Leu Gly Lys Trp
35 40 45
Lys Gln Val Asp Asp Thr Pro Phe Ser Gly Gly Gly Met Leu Leu Met
50 55 60
Ala Glu Pro Val Thr Ser Ala Ile Arg Ser Val Arg Lys Glu Asn Ser
65 70 75 80
Lys Val Ile Tyr Leu Ser Pro Gln Gly Ala Leu Leu Thr Ala Glu Lys
85 90 95
Ser Arg Glu Leu Ala Ala Ala Ser His Leu Ile Leu Leu Cys Gly His
100 105 110
Tyr Glu Gly Ile Asp Glu Arg Ala Ile Glu Ser Glu Val Asp Glu Glu
115 120 125
Ile Ser Ile Gly Asp Tyr Val Leu Thr Asn Gly Gly Ile Ala Ala Leu
130 135 140
Val Leu Ile Asp Ala Val Ser Arg Phe Ile Pro Gly Val Leu Gly Asn
145 150 155 160
Gln Glu Ser Ala Glu Arg Asp Ser Leu Glu Asn Gly Leu Leu Glu Gly
165 170 175
Pro Gln Tyr Thr Arg Pro Arg Glu Phe Glu Gly Lys Glu Val Pro Glu
180 185 190
Val Leu Leu Gln Gly Asp His Lys Ala Ile Ser Gln Trp Arg Leu Glu
195 200 205
Gln Ser Glu Arg Arg Thr Tyr Glu Arg Arg Pro Asp Leu Tyr Leu Asn
210 215 220
Tyr Leu Tyr Lys Arg Ser Ile Asp His Lys Phe Asp Glu Glu Thr Thr
225 230 235 240
Thr Asn Arg Asp His Phe Lys Cys Asp Lys Ile Ser Val Val Leu Glu
245 250 255
Val Asn Lys Leu Lys Arg Ala Lys Asn Phe Tyr Cys Lys Val Phe Gly
260 265 270
Leu Asp Ala Met Ser Cys Glu Asn Lys Phe Cys Leu Pro His Glu Gly
275 280 285
Lys Thr Ile Phe Trp Leu Arg Glu Val Gln Ala Glu Lys Lys Asn Ile
290 295 300
Val Thr Leu Ser Leu Ser Leu Asp Cys Ala Cys Glu Glu Asp Phe Cys
305 310 315 320
Tyr Leu Leu Arg Arg Trp Glu Leu Phe Gly Gly Lys Leu Leu Glu Lys
325 330 335
Gln Ala Asp Glu His Ala Val Trp Ala Leu Ala Gln Asp Leu Asp Gly
340 345 350

His Ala Trp Ile Phe Ser Trp His Arg Met Lys
 355 360

<210> 120
 <211> 130
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0118

<400> 120
 Lys Lys Glu Asn Phe Arg Trp Tyr Ile Met Val Asn Leu Leu Lys Glu
 1 5 10 15
 Leu Glu Gln Glu Gln Cys Arg Asn Asp Leu Pro Glu Phe His Val Gly
 20 25 30
 Asp Thr Ile Arg Leu Ala Thr Lys Ile Ser Glu Gly Gly Lys Glu Arg
 35 40 45
 Val Gln Val Phe Gln Gly Thr Val Met Ala Arg Arg Gly Gly Gly Ser
 50 55 60
 Gly Glu Thr Val Ser Leu His Arg Val Ala Tyr Gly Glu Gly Met Glu
 65 70 75 80
 Lys Ser Phe Leu Leu Asn Ser Pro Arg Ile Val Ser Ile Glu Ile Val
 85 90 95
 Lys Arg Gly Lys Val Ala Arg Ala Arg Leu Tyr Tyr Leu Arg Gly Lys
 100 105 110
 Thr Gly Lys Ala Ala Lys Val Lys Glu Phe Val Gly Pro Arg Ser Ser
 115 120 125
 Lys Lys
 130

<210> 121
 <211> 215
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0119

<400> 121
 Leu Met Asn Thr Ser Ile Ser Glu Ile Gln Arg Phe Leu Ser Met Ile
 1 5 10 15
 Ala Phe Glu Lys Glu Leu Val Ser Glu Asp Phe Ser Val Val Ala Gly
 20 25 30
 Ile Asp Glu Ala Gly Arg Gly Pro Leu Ala Gly Pro Val Val Ala Ser
 35 40 45
 Ala Cys Ile Leu Pro Lys Gly Lys Val Phe Pro Gly Val Asn Asp Ser
 50 55 60
 Lys Lys Leu Ser Pro Lys Gln Arg Ala Gln Val Arg Asp Ala Leu Met
 65 70 75 80
 Gln Asp Pro Glu Val Cys Phe Gly Ile Gly Val Ile Ser Val Glu Arg
 85 90 95
 Ile Asp Gln Val Asn Ile Leu Glu Ala Thr Lys Glu Ala Met Leu Gln
 100 105 110
 Ala Ile Ser Ser Leu Pro Ile Ser Pro Asp Ile Leu Leu Val Asp Gly
 115 120 125
 Leu Tyr Leu Pro His Asp Ile Pro Cys Lys Lys Ile Ile Gln Gly Asp
 130 135 140
 Ala Lys Ser Ala Ser Ile Ala Ala Ala Ser Ile Leu Ala Lys Glu His
 145 150 155 160

Arg Asp Asp Leu Met Leu Gln Leu His Arg Leu Tyr Pro Glu Tyr Gly
165 170 175
Phe Asp Arg His Lys Gly Tyr Gly Thr Ser Leu His Val Glu Ala Ile
180 185 190
Arg Arg Tyr Gly Pro Ser Pro Cys His Arg Lys Ser Phe Ser Pro Ile
195 200 205
Lys Gln Met Cys Ala Ile Val
210 215

<210> 122
<211> 218
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0120

<400> 122
Glu Glu Leu Phe Ser Asn Lys Ala Asn Val Cys Tyr Cys Met Asn Lys
1 5 10 15
Ile Leu Val Asp Ser Pro Phe Ser Pro Asp His Gln Lys Cys Cys Pro
20 25 30
Lys Leu Phe Thr Ile Ser Ala Pro Ala Gly Val Gly Lys Thr Thr Leu
35 40 45
Val Arg Met Leu Glu Gln Glu Phe Ser Ser Ala Phe Ala Glu Thr Ile
50 55 60
Ser Val Thr Thr Arg Lys Pro Arg Glu Gly Glu Val Pro Gly Lys Asp
65 70 75 80
Tyr His Phe Val Ser His Glu Glu Phe Gln Arg Leu Leu Asp Arg Gln
85 90 95
Ala Leu Leu Glu Trp Val Phe Leu Phe Gly Glu Cys Tyr Gly Thr Ser
100 105 110
Met Leu Glu Ile Glu Arg Ile Trp Ser Leu Gly Lys His Ala Val Ala
115 120 125
Val Ile Asp Ile Gln Gly Ala Leu Phe Ile Arg Ser Arg Met Pro Ser
130 135 140
Val Ser Ile Phe Ile Ala Pro Pro Ser Gln Glu Glu Leu Glu Arg Arg
145 150 155 160
Leu Ala Ser Arg Gly Ser Glu Glu Gly Ser Gln Arg Lys Glu Arg Leu
165 170 175
Glu His Ser Leu Ile Glu Leu Ala Ala Asn Gln Phe Asp Tyr Val
180 185 190
Ile Ile Asn Asp Asp Leu Asn Gln Ala Tyr Arg Val Leu Lys Ser Ile
195 200 205
Phe Ile Ala Glu Glu His Arg Asn Ile Leu
210 215

<210> 123
<211> 100
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0121

<400> 123
Glu His Ile Met Ile Lys Lys Asp Arg Phe Thr Asn Glu Lys Leu Asn
1 5 10 15
Lys Leu Phe Asp Ser Pro Phe Ser Leu Val Asn Tyr Ala Ile Lys Gln
20 25 30

Ala Lys Ile Lys Ile Ala Lys Gly Asp Val Arg Ser Ser Asn Val Ala
 35 40 45
 Ile Glu Thr Leu Val Leu Leu Asp Arg Glu Gly Ile Gln Pro Glu Phe
 50 55 60
 Thr Glu Glu Ile Val Val Thr Ala Ser Pro Thr Val Glu Arg Lys Arg
 65 70 75 80
 Ser Glu His Thr Asn Ser Arg Lys Lys Asp Pro Ser Ala Tyr Thr Trp
 85 90 95
 Ser Asp Val Lys
 100

<210> 124
 <211> 554
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0122

<400> 124
 Cys Lys Val Met Pro Gln Lys Val Leu Ile Thr Ser Ala Leu Pro Tyr
 1 5 10 15
 Ala Asn Gly Pro Leu His Phe Gly His Ile Ala Gly Val Tyr Leu Pro
 20 25 30
 Ala Asp Val Tyr Ala Arg Phe Arg Arg Leu Leu Gly Asp Asp Val Leu
 35 40 45
 Tyr Ile Cys Gly Ser Asp Glu Phe Gly Ile Ala Ile Thr Leu Asn Ala
 50 55 60
 Asp Arg Glu Gly Leu Gly Tyr Gln Glu Tyr Val Asp Met Tyr His Lys
 65 70 75 80
 Leu His Lys Asp Thr Phe Glu Lys Leu Gly Phe Ala Leu Asp Phe Phe
 85 90 95
 Ser Arg Thr Thr Asn Pro Phe His Ala Glu Leu Val Gln Asp Phe Tyr
 100 105 110
 Ser Gln Leu Lys Ala Ser Gly Leu Ile Glu Asn Arg Ile Ser Glu Gln
 115 120 125
 Leu Tyr Ser Glu Gln Glu Gln Arg Phe Leu Ala Asp Arg Tyr Val Glu
 130 135 140
 Gly Thr Cys Pro Arg Cys Gly Phe Asp His Ala Arg Gly Asp Glu Cys
 145 150 155 160
 Gln Ser Cys Gly Ala Asp Tyr Glu Ala Ile Asp Leu Ile Gly Pro Lys
 165 170 175
 Ser Lys Ile Ser Gly Val Glu Leu Val Lys Lys Glu Thr Glu His Ser
 180 185 190
 Tyr Phe Leu Leu Asp Arg Met Lys Asp Ala Leu Leu Ser Phe Ile Gln
 195 200 205
 Gly Cys Tyr Leu Pro Asp His Val Arg Lys Phe Val Val Asp Tyr Ile
 210 215 220
 Glu His Val Arg Ser Arg Ala Ile Thr Arg Asp Leu Ser Trp Gly Ile
 225 230 235 240
 Pro Val Pro Asp Phe Pro Gly Lys Val Phe Tyr Val Trp Phe Asp Ala
 245 250 255
 Pro Ile Gly Tyr Ile Ser Gly Thr Met Glu Trp Ala Ala Ser Gln Gly
 260 265 270
 Asn Pro Asp Glu Trp Lys Arg Phe Trp Leu Glu Asp Gly Val Glu Tyr
 275 280 285
 Val Gln Phe Ile Gly Lys Asp Asn Leu Pro Phe His Ser Val Val Phe
 290 295 300
 Pro Ala Met Glu Leu Gly Gln Lys Leu Asp Tyr Lys Lys Val Asp Ala
 305 310 315 320

Ile His Tyr Gly Val Arg Ile Phe Lys Lys Tyr Gln Glu Lys Ser Ile
 165 170 175
 Glu Lys Ile Cys Glu Asp Pro Phe Leu Ala Arg Glu Met Glu Gly
 180 185 190
 Ile Gly Phe Lys Thr Ala Asp Phe Ile Ala Met Lys Leu Gly Val Pro
 195 200 205
 Arg Asn Ser Glu Ser Arg Leu Cys Ala Gly Ile Gln His Ser Leu Glu
 210 215 220
 Glu Leu Gln Glu Glu Gly His Thr Cys Tyr Pro Ile Glu Leu Leu Ile
 225 230 235 240
 Asp Val Val Ala Lys Leu Leu Asn Gln Asp Val Phe Asp Thr Pro Ile
 245 250 255
 Thr Leu Glu Glu Ile Asp Thr Gln Ile Leu Asn Met Gln Lys Arg Lys
 260 265 270
 Leu Leu His Ile Gln Asp Ile Ser Gly Thr Leu His Val Trp Thr Arg
 275 280 285
 Tyr Leu His Leu Ala Glu Lys Thr Ile Val Ser Asp Leu Lys Arg Ile
 290 295 300
 Leu Phe Ser Ser Arg Arg Ile Arg Ser Ile Asp Gly Glu Lys Ala Ile
 305 310 315 320
 Ala Trp Val Glu Glu Asn Leu Ser Ile Asp Leu Ala Glu Gln Gln Arg
 325 330 335
 Glu Ala Ile Lys Ala Cys Phe Ser Glu Lys Leu Leu Ile Ile Thr Gly
 340 345 350
 Gly Pro Gly Thr Gly Lys Ser Thr Ile Thr Gln Ala Ile Leu Lys Ile
 355 360 365
 Phe Glu Gln Val Thr His Lys Ile Ile Leu Ala Ala Pro Thr Gly Lys
 370 375 380
 Ala Ala Lys Arg Met Thr Glu Ile Thr Gln Lys His Ser Val Thr Ile
 385 390 395 400
 His Ala Leu Leu Gln Tyr Asp Phe Lys Thr Lys Ser Phe Arg Lys Asn
 405 410 415
 His Asp Asn Pro Ile Asp Cys Asp Leu Ile Ile Val Asp Glu Ser Gly
 420 425 430
 Met Met Asp Thr His Leu Leu His Phe Leu Lys Ala Leu Pro Asp
 435 440 445
 Tyr Thr Thr Leu Val Phe Ile Gly Asp Ile His Gln Leu Pro Ser Val
 450 455 460
 Gly Pro Gly Asn Ile Leu Lys Asp Leu Ile Thr Ser Asn Lys Met Thr
 465 470 475 480
 Val Ile Arg Leu Asn Lys Ile Phe Arg Gln Val His Asp Ser Gly Ile
 485 490 495
 Val Thr Asn Ala His Arg Val Asn Glu Gly Glu Leu Pro Ile Leu Tyr
 500 505 510
 Ser Glu Thr Gly Arg Arg Asp Phe Leu Phe Phe Gln Lys Asp Asp Gln
 515 520 525
 Glu Glu Ala Leu Asn His Ile Ile His Leu Val Thr Lys Phe Val Pro
 530 535 540
 Gln Lys Tyr His Ile Tyr Pro Gln Asp Ile Gln Val Leu Ala Pro Met
 545 550 555 560
 Lys Lys Gly Thr Leu Gly Ile Tyr Asn Leu Asn Lys Ala Leu Lys His
 565 570 575
 Ala Leu Asn Pro Lys Lys Ala Asn Leu His Gly Arg Phe Gln Ser Tyr
 580 585 590
 Ala Val Gly Asp Lys Val Met Gln Ile Arg Asn Asn Tyr Asn Lys Glu
 595 600 605
 Val Phe Asn Gly Asp Ile Gly Tyr Val Ser Thr Ile Asn Phe Glu Asp
 610 615 620
 Lys Ala Val Val Val Arg Met Glu Gly Lys His Val Gly Tyr Ser Phe
 625 630 635 640

Ser Glu Leu Asp Asp Leu Val Leu Ala Tyr Ala Thr Ser Val His Lys
 645 650 655
 Tyr Gln Gly Ser Glu Ser Pro Cys Ile Ile Pro Ile His Thr Ser
 660 665 670
 His Phe Met Met Leu Tyr Arg Asn Leu Leu Tyr Thr Ala Ile Thr Arg
 675 680 685
 Gly Lys Lys Leu Val Ile Leu Val Gly Thr Lys Lys Ala Ile Ala Ile
 690 695 700
 Ala Thr Arg Asn Asn Arg Val Gln His Arg Cys Thr Gly Leu Ala Glu
 705 710 715 720
 Val Leu Lys Glu Leu Asp Thr Lys Lys Asn Tyr Ala Asp Leu
 725 730

<210> 126
 <211> 498
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0124

<400> 126
 Ile Arg Ser Lys Gln Arg Thr Val Ala Ile Thr Leu Leu Val Leu Gly
 1 5 10 15
 Ile Leu Leu Ile Ala Ser Gly Ile Ile Phe Leu Ala Val Ala Ile Pro
 20 25 30
 Gly Leu Ser Ser Ala Val Ala Leu Gly Leu Gly Cys Gly Met Thr Ala
 35 40 45
 Leu Gly Thr Val Leu Leu Ile Thr Gly Leu Val Leu Leu Ile Arg Ser
 50 55 60
 Glu Lys Leu Ala Leu Glu Gln Val Glu Ile Lys Gln Ala Arg Thr Arg
 65 70 75 80
 Val Asn Asn Glu Leu Asp Gln Leu Ser Gln Tyr Val Phe Tyr Thr Glu
 85 90 95
 Asn Val Leu Asp Asn Leu Lys Arg Trp Ser Tyr Arg Asp Leu Gly Phe
 100 105 110
 Val Arg Gln Ala Gln Glu Glu Val Thr Asn Leu Glu Gln Asp Ile Glu
 115 120 125
 Glu Ile Phe Leu Thr Leu Arg Asp Ile Arg Asn Ala Leu Asp Asn Glu
 130 135 140
 Glu Phe Phe Met Thr His Ala Lys Gln Cys Leu Ala Gln Val Gly Glu
 145 150 155 160
 Ser Leu Phe Gln Asp Ala Ser Ile Asp Glu Phe Ile Asn Leu Ala His
 165 170 175
 Leu Ser Glu Ile Arg Gln His Leu Asp Ile Asn Asp Pro Arg Trp Ser
 180 185 190
 Met Ile Thr Lys Lys Val Lys Gly Thr Val Val Arg Phe Ile Tyr Val
 195 200 205
 Ser Thr Met Tyr Lys Gln Ile Lys Ser Asn Phe Glu Lys Ser Asp Phe
 210 215 220
 Gly Gln Leu Arg Lys Met Leu Leu Asn Asn Tyr Lys Thr Ile Glu Glu
 225 230 235 240
 Val Leu Tyr Gln Ser Phe Gln Lys Gly Tyr Asn Arg Ala Ala Leu Leu
 245 250 255
 Ser Glu Lys Thr Arg Ile Ile His Thr Ser Ser Leu Leu His Trp Glu
 260 265 270
 Lys Asp Glu Asp Lys His Leu Asn Ile Lys Asn Glu Cys Ala Ser Arg
 275 280 285
 Leu Glu Asn Phe Lys Lys Phe Arg Thr Leu Phe Leu Gly Leu Ser Glu
 290 295 300

Glu Asp Val Ile Asp Phe Thr Gly Ala Ser Gly Trp Asp Cys Ser Lys
 305 310 315 320
 Leu Pro Arg Lys Glu Val Pro Leu Asp Gly Gly Lys Lys Lys Leu Arg
 325 330 335
 Phe Lys Arg Thr Phe Ala Asp Glu Gln Val Gly Asp Trp Asp Arg Thr
 340 345 350
 Thr Ser Leu Glu His Met Thr Pro Gln Glu Glu Asp Pro Leu Asp Arg
 355 360 365
 Leu Met Asp Gln Val Glu Gln Glu Ala Thr Ser Val Leu Lys Asp Gln
 370 375 380
 Asp Arg Tyr Trp Lys Glu Ile Glu Thr Ser Glu Ala Lys Phe Arg Ser
 385 390 395 400
 Leu Pro Arg Glu Asp Asp Phe Glu Lys Gln Ser Gln Ile Asp Ser Tyr
 405 410 415
 Ile Arg Asp Leu Asp Asp His Leu Ser Val Trp Ala Asn Gln Leu Ser
 420 425 430
 Ala Ala Glu Asp Ala Leu Ile Glu Val Thr Asp Val Gln Glu His Gly
 435 440 445
 Asn Arg Glu Met Leu Lys Asn Ile Gln Gln Gly Leu Glu Leu Ile Glu
 450 455 460
 Asp Ala Val Lys Ala Thr Leu Pro Arg Val Asp Phe Ile Gln Glu Leu
 465 470 475 480
 Leu Glu Lys Glu Glu Leu Pro Leu Val Ala Ala Arg Met Ser Leu Glu
 485 490 495
 Asn Ser

<210> 127
 <211> 178
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0125

<400> 127
 Lys Ile Ser Ser Cys Ala Glu Ile Met Ser Glu Val Lys Pro Leu Phe
 1 5 10 15
 Leu Lys Asn Asp Ser Phe Asp Leu Ala Thr Gln Arg Phe Gln Asn Leu
 20 25 30
 Ile Asn Met Leu Gln Glu Gln Ala Glu Ile Tyr Asn Glu Tyr Glu Glu
 35 40 45
 Lys Asn Ala Arg Val Gln Asn Glu Ile Lys Glu Gln Lys Asp Phe Val
 50 55 60
 Lys Arg Cys Ile Glu Asp Phe Glu Ala Arg Gly Leu Gly Val Leu Lys
 65 70 75 80
 Glu Glu Leu Ala Ser Leu Thr Arg Asp Phe His Asp Lys Ala Lys Ala
 85 90 95
 Glu Thr Ser Met Leu Ile Glu Cys Pro Cys Ile Gly Phe Tyr Tyr Ser
 100 105 110
 Ile His Gln Glu Glu Gln Arg Gln Arg Gln Glu Arg Leu Gln Lys Met
 115 120 125
 Ala Glu Arg Tyr Arg Asp Cys Lys Gln Val Leu Glu Ala Val Gln Val
 130 135 140
 Glu Gln Lys Asp Met Ile Ser Ser Arg Val Val Val Asp Asp Ser Tyr
 145 150 155 160
 Phe Glu Glu Glu Lys Glu Glu Gln Lys Val Asp Asn Arg Lys Lys Glu
 165 170 175
 Gln Asp

<210> 128
 <211> 760
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0126

<400> 128
 Leu Leu Val Phe Ser Tyr Tyr Cys Met Gly Leu Phe Phe Phe Ser Gly
 1 5 10 15
 Ala Ile Ser Ser Cys Gly Leu Leu Val Ser Leu Gly Val Gly Leu Gly
 20 25 30
 Leu Ser Val Leu Gly Val Leu Leu Leu Leu Leu Ala Gly Leu Leu Leu
 35 40 45
 Phe Lys Ile Gln Ser Met Leu Arg Glu Val Pro Lys Ala Pro Asp Leu
 50 55 60
 Leu Asp Leu Glu Asp Ala Ser Glu Arg Leu Arg Val Lys Ala Ser Arg
 65 70 75 80
 Ser Leu Ala Ser Leu Pro Lys Glu Ile Ser Gln Leu Glu Ser Tyr Ile
 85 90 95
 Arg Ser Ala Ala Asn Asp Leu Asn Thr Ile Lys Thr Trp Pro His Lys
 100 105 110
 Asp Gln Arg Leu Val Glu Thr Val Ser Arg Lys Leu Glu Arg Leu Ala
 115 120 125
 Ala Ala Gln Asn Tyr Met Ile Ser Glu Leu Cys Glu Ile Ser Glu Ile
 130 135 140
 Leu Glu Glu Glu Glu His His Leu Ile Leu Ala Gln Glu Ser Leu Glu
 145 150 155 160
 Trp Ile Gly Lys Ser Leu Phe Ser Thr Phe Leu Asp Met Glu Ser Phe
 165 170 175
 Leu Asn Leu Ser His Leu Ser Glu Val Arg Pro Tyr Leu Ala Val Asn
 180 185 190
 Asp Pro Arg Leu Leu Glu Ile Thr Glu Glu Ser Trp Glu Val Val Ser
 195 200 205
 His Phe Ile Asn Val Thr Ser Ala Phe Lys Lys Ala Gln Ile Leu Phe
 210 215 220
 Lys Asn Asn Glu His Ser Arg Met Lys Lys Lys Leu Glu Ser Val Gln
 225 230 235 240
 Glu Leu Leu Glu Thr Phe Ile Tyr Lys Ser Leu Lys Arg Ser Tyr Arg
 245 250 255
 Glu Leu Gly Cys Leu Ser Glu Lys Met Arg Ile Ile His Asp Asn Pro
 260 265 270
 Leu Phe Pro Trp Val Gln Asp Gln Gln Lys Tyr Ala His Ala Lys Asn
 275 280 285
 Glu Phe Gly Glu Ile Ala Arg Cys Leu Glu Glu Phe Glu Lys Thr Phe
 290 295 300
 Phe Trp Leu Asp Glu Glu Cys Ala Ile Ser Tyr Met Asp Cys Trp Asp
 305 310 315 320
 Phe Leu Asn Glu Ser Ile Gln Asn Lys Lys Ser Arg Val Asp Arg Asp
 325 330 335
 Tyr Ile Ser Thr Lys Lys Ile Ala Leu Lys Asp Arg Ala Arg Thr Tyr
 340 345 350
 Ala Lys Val Leu Leu Glu Glu Asn Pro Thr Thr Glu Gly Lys Ile Asp
 355 360 365
 Leu Gln Asp Ala Gln Arg Ala Phe Glu Arg Gln Ser Gln Glu Phe Tyr
 370 375 380
 Thr Leu Glu His Thr Glu Thr Lys Val Arg Leu Glu Ala Leu Gln Gln
 385 390 395 400
 Cys Phe Ser Asp Leu Arg Glu Ala Thr Asn Val Arg Gln Val Arg Phe
 405 410 415

Thr Asn Ser Glu Asn Ala Asn Asp Leu Lys Glu Ser Phe Glu Lys Ile
 420 425 430
 Asp Lys Glu Arg Val Arg Tyr Gln Lys Glu Gln Arg Leu Tyr Trp Glu
 435 440 445
 Thr Ile Asp Arg Asn Glu Gln Glu Leu Arg Glu Glu Ile Gly Glu Ser
 450 455 460
 Leu Arg Leu Gln Asn Arg Arg Lys Gly Tyr Arg Ala Gly Tyr Asp Ala
 465 470 475 480
 Gly Arg Leu Lys Gly Leu Leu Arg Gln Trp Lys Lys Asn Leu Arg Asp
 485 490 495
 Val Glu Ala His Leu Glu Asp Ala Thr Met Asp Phe Glu His Glu Val
 500 505 510
 Ser Lys Ser Glu Leu Cys Ser Val Arg Ala Arg Leu Glu Val Leu Glu
 515 520 525
 Glu Glu Leu Met Asp Met Ser Pro Lys Val Ala Asp Ile Glu Glu Leu
 530 535 540
 Leu Ser Tyr Glu Glu Arg Cys Ile Leu Pro Ile Arg Glu Asn Leu Glu
 545 550 555 560
 Arg Ala Tyr Leu Gln Tyr Asn Lys Cys Ser Glu Ile Leu Ser Lys Ala
 565 570 575
 Lys Phe Phe Phe Pro Glu Asp Glu Gln Leu Leu Val Ser Glu Ala Asn
 580 585 590
 Leu Arg Glu Val Gly Ala Gln Leu Lys Gln Val Gln Gly Lys Cys Gln
 595 600 605
 Glu Arg Ala Gln Lys Phe Ala Ile Phe Glu Lys His Ile Gln Glu Gln
 610 615 620
 Lys Ser Leu Ile Lys Glu Gln Val Arg Ser Phe Asp Leu Ala Gly Val
 625 630 635 640
 Gly Phe Leu Lys Ser Glu Leu Leu Ser Ile Ala Cys Asn Leu Tyr Ile
 645 650 655
 Lys Ala Val Val Lys Glu Ser Ile Pro Val Asp Val Pro Cys Met Gln
 660 665 670
 Leu Tyr Tyr Ser Tyr Tyr Glu Asp Asn Glu Ala Val Val Arg Asn Arg
 675 680 685
 Leu Leu Asn Met Thr Glu Arg Tyr Gln Asn Phe Lys Arg Ser Leu Asn
 690 695 700
 Ser Ile Gln Phe Asn Gly Asp Val Leu Leu Arg Asp Pro Val Tyr Gln
 705 710 715 720
 Pro Glu Gly His Glu Thr Arg Leu Lys Glu Arg Glu Leu Gln Glu Thr
 725 730 735
 Thr Leu Ser Cys Lys Lys Leu Lys Val Ala Gln Asp Arg Leu Ser Glu
 740 745 750
 Leu Glu Ser Arg Leu Ser Arg Arg
 755 760

<210> 129

<211> 341

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0127

<400> 129

Glu Ser Phe Met Phe Pro Ser Ala Asn Gln Glu Ser Arg Thr Arg Asn
 1 5 10 15
 Val Pro Leu Gly Ile Phe His Gly Leu Val Ala Cys Leu Tyr Trp Gly
 20 25 30
 Ile Val Phe Val Ile Pro Asn Phe Leu Gly Ser Phe Gly Asp Leu Asp
 35 40 45

Ile Val Leu Thr Arg Tyr Thr Ile Phe Gly Ile Phe Ser Leu Ile Ala
 50 55 60
 Cys Ala Ile Lys Asn Pro Ser Val Ile Lys Lys Thr Pro Leu Tyr Ile
 65 70 75 80
 Trp Arg Lys Ser Leu Leu Trp Thr Leu Leu Ile Asn Pro Val Tyr Tyr
 85 90 95
 Phe Gly Ile Thr Leu Gly Ile Arg Tyr Val Gly Ser Ala Ile Thr Val
 100 105 110
 Val Ile Ala Ser Leu Ala Pro Thr Ala Val Leu Tyr His Ser Asn Thr
 115 120 125
 Lys Gln Lys Glu Leu Pro Tyr Ser Leu Leu Phe Ala Ile Ser Ser Val
 130 135 140
 Ile Ile Thr Gly Val Ile Leu Thr His Leu Ser Ala Leu Asn Leu Pro
 145 150 155 160
 Thr Ala Ala Ser Pro Leu Tyr Ser Ile Leu Gly Val Ile Ala Val Ile
 165 170 175
 Leu Ser Thr Ser Leu Trp Val Ile Tyr Val Ile Arg Asn Gln Ser Leu
 180 185 190
 Leu Glu Lys His Pro Asn Leu Thr Pro Asp Thr Trp Ser Tyr Leu Ile
 195 200 205
 Gly Ile Ser Ala Leu Ile Ile Cys Leu Pro Met Ile Ile Ile Leu Asp
 210 215 220
 Leu Cys Gly Ile Thr His Val Thr His Asn Leu Ile Ser His Thr Pro
 225 230 235 240
 Gly Ser Glu Arg Leu Leu Phe Leu Leu Cys Ser Ala Met Gly Ile
 245 250 255
 Phe Ser Ser Ala Lys Ala Leu Ile Ala Trp Asn Lys Ala Ser Leu Asn
 260 265 270
 Leu Ser Pro Ala Leu Leu Gly Ala Ile Leu Ile Phe Glu Pro Ile Phe
 275 280 285
 Gly Leu Val Leu Thr Tyr Leu Tyr Ser Gln Ser Leu Pro Ser Leu Gln
 290 295 300
 Glu Gly Ile Gly Ile Phe Leu Met Leu Gly Gly Ser Leu Leu Cys Leu
 305 310 315 320
 Val Leu Phe Gly Arg Lys Val Gln Lys Ser Leu Glu Asn Ser Gln Val
 325 330 335
 Ser Ser Ser Asn Glu
 340

<210> 130
 <211> 264
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0128

<400> 130
 Glu Asp Arg Gly Arg Met Leu Arg Asn Gln Val Leu Val Tyr Cys Ser
 1 5 10 15
 Glu Gly Val Ser Pro Tyr Tyr Leu Arg His Thr Ile Arg Phe Leu Lys
 20 25 30
 Tyr Tyr Ser Thr Gln Glu Gly Ala Phe Asp Ile Leu Arg Val Asp Gly
 35 40 45
 Asn Phe Leu Ile Lys Asn Pro Phe Trp Glu Glu Thr Thr Arg Leu Leu
 50 55 60
 Val Phe Pro Gly Gly Ala Asp Arg Pro Tyr His Arg Val Leu His Gly
 65 70 75 80
 Leu Gly Thr Ala Arg Ile Phe Gln Tyr Val Ser Glu Gly Gly Asn Phe
 85 90 95

Leu Gly Ile Cys Ala Gly Ala Tyr Phe Gly Ser Lys Met Ile Tyr Phe
 100 105 110
 Tyr Glu Pro Glu Gly Ala Pro Leu Gln Gly Ala Arg Asp Leu Gly Phe
 115 120 125
 Phe Pro Gly Thr Ala Lys Gly Pro Ala Tyr Arg Gly Asn Phe Ser Tyr
 130 135 140
 Val Ser Pro Ser Gly Val Arg Val Ser Pro Gln Leu Phe Ser Asp Phe
 145 150 155 160
 Gly Leu Gly Tyr Ala Met Phe Asn Gly Gly Cys Phe Phe Glu Gly Ser
 165 170 175
 Glu Gly Tyr Pro Gly Val Asn Ile Glu Ser Arg Tyr Asp Asp Leu Pro
 180 185 190
 Gly Lys Pro Ala Ser Ile Val Ser Arg Ile Val Ser Lys Gly Leu Ala
 195 200 205
 Val Leu Ser Gly Pro His Ile Glu Tyr Leu Pro His Tyr Cys Arg Met
 210 215 220
 Val Lys Glu Asn Val Gln Lys Thr Arg Glu Phe Leu Gln Arg Glu Arg
 225 230 235 240
 Thr Thr Leu Asp Arg Tyr Cys Gln Asn Leu Val Gln Arg Leu Arg Gln
 245 250 255
 Pro Ala Phe Ser Lys Ala Asp Cys
 260

<210> 131
 <211> 228
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0129

<400> 131
 Asp Glu Gln Tyr Ile Leu Ser His Ile His Met Asp Pro Arg Ile Phe
 1 5 10 15
 Val Thr Ser Glu Pro Leu Gln Lys Thr Tyr Gln Lys Leu Gln Glu Lys
 20 25 30
 His Val Asn Asn Leu Gly Ile Ala Ser Gln Val Ser Leu Thr Asp Leu
 35 40 45
 Gln Asn Lys Thr Gln Tyr Glu Asn Asn Leu Ile Glu Thr Thr Thr Asn
 50 55 60
 Glu Ile Thr Tyr Tyr Phe Pro Val Val His Asn Pro Asp Ile Leu Arg
 65 70 75 80
 Ser Glu Trp Asp Pro Ile Ser Asn Gln Leu Tyr Leu Ile Phe Lys Lys
 85 90 95
 Phe Phe Ile His Tyr His Asn Leu Phe Ser Thr Ala Leu Glu Arg Asn
 100 105 110
 Gln Ile Leu Leu Ile Asp Ser Leu Asn Thr Gly Ser Ser Asn Pro Ile
 115 120 125
 Ala Arg Gln Met Glu Leu Leu Ala Phe Leu Cys Val Phe Glu Gln Leu
 130 135 140
 Asp Tyr Asn Glu Asp Glu Tyr Thr Ile Glu Pro Arg Asp Tyr Phe Asn
 145 150 155 160
 Arg Phe Val Tyr Lys Asn Ser Gln Thr Ala Pro Gln Ile Gln Ser Phe
 165 170 175
 Gly Leu Leu His Gly Tyr Glu Glu Met Ser Tyr Ala Ser Asn Asn Ile
 180 185 190
 Arg Asn Val Leu Thr His Ser Ile Val Leu Cys Ser Pro Ile Leu Tyr
 195 200 205
 Gln Leu Ile Thr Glu Phe Asp Thr Thr Lys Ile His Ala Asp Asp Phe
 210 215 220

Asp Cys Leu Ile
225

<210> 132
<211> 167
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0130

<400> 132
Ser Ser Met Val Lys Cys Ser Ser Ile Ile His Glu Asn Lys Lys Pro
1 5 10 15
Ala Gln Leu Leu Pro Glu Ser Lys Phe Ala Ala Ile Thr Lys Leu Ser
20 25 30
Leu Ala Ile Leu Ser Leu Phe Leu Gly Ile Ala Ala Cys Ile Leu Ile
35 40 45
Ala Leu Ser Gly Leu Leu Pro Asn Thr Leu Leu Ile Ile Ala Leu Ser
50 55 60
Leu Ile Ser Ile Ile Val Leu Ser Thr Gly Ile Ser Leu Leu Ile Gly
65 70 75 80
Thr Gln Cys Ser Lys Ser Val Gln Lys Asp Glu Gln Lys Pro Lys Ser
85 90 95
Ile Phe Pro Lys Glu Thr Pro Ser Leu Asp Pro Trp Leu Leu Asn Pro
100 105 110
Leu Lys Asn Lys Ile Gln Ser Ser Glu Thr Leu Leu Leu Asp Pro Thr
115 120 125
Ser Ile Asn Leu Lys Asn Glu Leu Phe Phe Pro Ser Phe Glu Glu Trp
130 135 140
Lys Lys Ile Phe Leu Lys Asp Pro Asp Phe Leu Ile Lys Ser Ala Leu
145 150 155 160
Ala Asn Trp Lys Ile Leu Glu
165

<210> 133
<211> 380
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0131

<400> 133
Phe Ser Ser Leu Lys Lys Glu Arg Phe Ser Leu Ser Leu Ala Ile Phe
1 5 10 15
Leu Ile Phe Phe Phe Thr Ser Ala Tyr Val Phe Pro Ser Ile Cys Phe
20 25 30
Leu Glu Leu Phe Met Glu Asn Ala Met Ser Ser Ser Phe Val Tyr Asn
35 40 45
Gly Pro Ser Trp Ile Leu Lys Thr Ser Val Ala Gln Glu Val Phe Lys
50 55 60
Lys His Gly Lys Gly Ile Gln Val Leu Leu Ser Thr Ser Val Met Leu
65 70 75 80
Phe Ile Gly Leu Gly Val Cys Ala Phe Ile Phe Pro Gln Tyr Leu Ile
85 90 95
Val Phe Val Leu Thr Ile Ala Leu Leu Met Leu Ala Ile Ser Leu Val
100 105 110
Leu Phe Leu Leu Ile Arg Ser Val Arg Ser Ser Met Val Asp Arg Leu
115 120 125

Trp Cys Ser Glu Lys Gly Tyr Ala Leu His Gln His Glu Asn Gly Pro
 130 135 140
 Phe Leu Asp Val Lys Arg Val Gln Gln Ile Leu Leu Arg Ser Pro Tyr
 145 150 155 160
 Ile Lys Val Arg Ala Leu Trp Pro Ser Gly Asp Ile Pro Glu Asp Pro
 165 170 175
 Ser Gln Ala Ala Val Leu Leu Leu Ser Pro Trp Thr Phe Phe Ser Ser
 180 185 190
 Val Asp Val Glu Ala Leu Leu Pro Ser Pro Gln Glu Lys Glu Gly Lys
 195 200 205
 Tyr Ile Asp Pro Val Leu Pro Lys Leu Ser Arg Ile Glu Arg Val Ser
 210 215 220
 Leu Leu Val Phe Leu Ser Ala Phe Thr Leu Asp Asp Leu Asn Glu Gln
 225 230 235 240
 Gly Val Asn Pro Leu Met Asn Asn Glu Glu Phe Leu Phe Phe Ile Asn
 245 250 255
 Lys Lys Ala Arg Glu His Gly Ile Gln Asp Leu Lys His Glu Ile Met
 260 265 270
 Ser Ser Leu Glu Lys Thr Gly Val Pro Leu Asp Pro Ser Met Ser Phe
 275 280 285
 Gln Val Ser Gln Ala Met Phe Ser Val Tyr Arg Tyr Leu Arg Gln Arg
 290 295 300
 Asp Leu Thr Thr Ser Glu Leu Arg Cys Phe His Leu Leu Ser Cys Phe
 305 310 315 320
 Lys Gly Asp Val Val His Cys Leu Ala Ser Phe Glu Asn Pro Lys Asp
 325 330 335
 Leu Ala Asp Ser Asp Phe Leu Glu Ala Cys Lys Asn Val Glu Trp Gly
 340 345 350
 Glu Phe Ile Ser Ala Cys Glu Lys Ala Leu Leu Lys Asn Pro Gln Gly
 355 360 365
 Ile Ser Ile Lys Asp Leu Lys Gln Phe Leu Val Arg
 370 375 380

<210> 134
 <211> 326
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0132

<400> 134
 Ser Met Ile Glu Phe Ala Phe Val Pro His Thr Ser Val Thr Ala Asp
 1 5 10 15
 Arg Ile Glu Asp Arg Met Ala Cys Arg Met Asn Lys Leu Ser Thr Leu
 20 25 30
 Ala Ile Thr Ser Leu Cys Val Leu Ile Ser Ser Val Cys Ile Met Ile
 35 40 45
 Gly Ile Leu Cys Ile Ser Gly Thr Val Gly Thr Tyr Ala Phe Val Val
 50 55 60
 Gly Ile Ile Phe Ser Val Leu Ala Leu Val Ala Cys Val Phe Phe Leu
 65 70 75 80
 Tyr Phe Phe Tyr Phe Ser Ser Glu Glu Phe Lys Cys Ala Ser Ser Gln
 85 90 95
 Glu Phe Arg Phe Leu Pro Ile Pro Ala Val Val Ser Ala Leu Arg Ser
 100 105 110
 Tyr Glu Tyr Ile Ser Gln Asp Ala Ile Asn Asp Val Ile Lys Asp Thr
 115 120 125
 Met Gln Leu Ser Thr Leu Ser Ser Leu Leu Asp Pro Glu Ala Phe Phe
 130 135 140

Leu Glu Phe Pro Tyr Phe Asn Ser Leu Ile Val Asn His Ser Met Lys
 145 150 155 160
 Glu Ala Asp Arg Leu Ser Arg Glu Ala Phe Leu Ile Leu Leu Gly Glu
 165 170 175
 Ile Thr Trp Lys Asp Cys Glu Thr Lys Ile Leu Pro Trp Leu Lys Asp
 180 185 190
 Pro Asn Ile Thr Pro Asp Asp Phe Trp Lys Leu Leu Lys Asp His Phe
 195 200 205
 Asp Leu Lys Asp Phe Lys Lys Arg Ile Ala Thr Trp Ile Arg Lys Ala
 210 215 220
 Tyr Pro Glu Ile Arg Leu Pro Lys Lys His Cys Leu Asp Lys Ser Ile
 225 230 235 240
 Tyr Lys Gly Cys Cys Lys Phe Leu Leu Leu Ser Glu Asn Asp Val Gln
 245 250 255
 Tyr Gln Arg Leu Leu His Lys Val Cys Tyr Phe Ser Gly Glu Phe Pro
 260 265 270
 Ala Met Val Leu Gly Leu Gly Ser Glu Val Pro Met Val Leu Gly Leu
 275 280 285
 Pro Lys Val Pro Lys Asp Leu Thr Trp Glu Met Phe Met Glu Asn Met
 290 295 300
 Pro Val Leu Leu Gln Ser Lys Arg Glu Gly His Trp Lys Ile Ser Leu
 305 310 315 320
 Glu Asp Val Ala Ser Leu
 325

<210> 135
 <211> 262
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0133

<400> 135
 Asn Ser Ser Ala Tyr Met Phe Lys Leu Leu Lys Asn Leu Phe Leu Ile
 1 5 10 15
 Gly Cys Cys Ile Val Gly Tyr Phe Trp Met Arg Lys Glu Ser Ile Val
 20 25 30
 Glu Gln Trp Leu Ser Asn Arg Leu His Thr Gln Val Thr Val Gly Arg
 35 40 45
 Val Ser Ile Arg Thr Ser Gly Ile Lys Ile Arg His Ile Cys Ile His
 50 55 60
 Asn Pro Leu Ala Ser Glu Arg Phe Pro Tyr Ala Ala Glu Ile Glu Tyr
 65 70 75 80
 Ala Asp Val Arg Phe Ser Ser Ile Ser Met Leu Leu Thr Lys Gln Leu
 85 90 95
 Glu Ile Ser Glu Leu Ile Ile His Gly Ala Asn Phe Thr Ile Phe Pro
 100 105 110
 Tyr Asp Ser His Gly Thr Lys Thr Asn Trp Ser Leu Val Trp Lys Asn
 115 120 125
 Phe His Pro Gln Lys Glu Thr Pro Ser Asn Leu Trp Ile Asp Arg Ala
 130 135 140
 Pro Val Leu Ile Arg Arg Cys Leu Phe Leu Asn Thr Arg Leu Tyr Gly
 145 150 155 160
 Leu Arg Ala Asn His Lys Asp Ile Pro His Leu Ser Val Pro Ser Leu
 165 170 175
 Glu Phe His Ser His Thr Ser Ser Ala Lys Glu Leu Pro Lys Leu Ser
 180 185 190
 Glu Ala Leu Pro Ser Leu Leu Tyr Leu Ala Leu Glu Glu Ser Leu Tyr
 195 200 205

His Leu Asn Leu Pro Gly Asp Ile Ile Lys Pro Leu Ser Gln Gln Ala
 210 215 220
 His Lys His Phe Tyr Ser Ser Tyr Pro Gln Phe Gln Asp Arg Leu Asn
 225 230 235 240
 Asp Ile Asn Thr Pro Gly Thr Pro Thr Glu Glu Ile Ile Gly Phe Ile
 245 250 255
 Arg Gly Leu Phe Phe His
 260

<210> 136
 <211> 555
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0134

<400> 136
 Phe Ala Asp Tyr Arg Lys Leu Arg Arg Thr Thr Met Ala Ala Lys Asn
 1 5 10 15
 Ile Lys Tyr Asn Glu Glu Ala Arg Lys Lys Ile His Lys Gly Val Lys
 20 25 30
 Thr Leu Ala Glu Ala Val Lys Val Thr Leu Gly Pro Lys Gly Arg His
 35 40 45
 Val Val Ile Asp Lys Ser Phe Gly Ser Pro Gln Val Thr Lys Asp Gly
 50 55 60
 Val Thr Val Ala Lys Glu Ile Glu Leu Glu Asp Lys His Glu Asn Met
 65 70 75 80
 Gly Ala Gln Met Val Lys Glu Val Ala Ser Lys Thr Ala Asp Lys Ala
 85 90 95
 Gly Asp Gly Thr Thr Thr Ala Thr Val Leu Ala Glu Ala Ile Tyr Ser
 100 105 110
 Glu Gly Leu Arg Asn Val Thr Ala Gly Ala Asn Pro Met Asp Leu Lys
 115 120 125
 Arg Gly Ile Asp Lys Ala Val Lys Val Val Val Asp Glu Leu Lys Lys
 130 135 140
 Ile Ser Lys Pro Val Gln His His Lys Glu Ile Ala Gln Val Ala Thr
 145 150 155 160
 Ile Ser Ala Asn Asn Asp Ser Glu Ile Gly Asn Leu Ile Ala Glu Ala
 165 170 175
 Met Glu Lys Val Gly Lys Asn Gly Ser Ile Thr Val Glu Glu Ala Lys
 180 185 190
 Gly Phe Glu Thr Val Leu Asp Val Val Glu Gly Met Asn Phe Asn Arg
 195 200 205
 Gly Tyr Leu Ser Ser Tyr Phe Ser Thr Asn Pro Glu Thr Gln Glu Cys
 210 215 220
 Val Leu Glu Asp Ala Leu Ile Leu Ile Tyr Asp Lys Lys Ile Ser Gly
 225 230 235 240
 Ile Lys Asp Phe Leu Pro Val Leu Gln Gln Val Ala Glu Ser Gly Arg
 245 250 255
 Pro Leu Leu Ile Ile Ala Glu Glu Ile Glu Gly Glu Ala Leu Ala Thr
 260 265 270
 Leu Val Val Asn Arg Leu Arg Ala Gly Phe Arg Val Cys Ala Val Lys
 275 280 285
 Ala Pro Gly Phe Gly Asp Arg Arg Lys Ala Met Leu Glu Asp Ile Ala
 290 295 300
 Ile Leu Thr Gly Gly Gln Leu Val Ser Glu Glu Leu Gly Met Lys Leu
 305 310 315 320
 Glu Asn Thr Thr Leu Ala Met Leu Gly Lys Ala Lys Lys Val Ile Val
 325 330 335

Thr Lys Glu Asp Thr Thr Ile Val Glu Gly Leu Gly Asn Lys Pro Asp
 340 345 350
 Ile Gln Ala Arg Cys Asp Asn Ile Lys Lys Gln Ile Glu Asp Ser Thr
 355 360 365
 Ser Asp Tyr Asp Lys Glu Lys Leu Gln Glu Arg Leu Ala Lys Leu Ser
 370 375 380
 Gly Gly Val Ala Val Ile Arg Val Gly Ala Ala Thr Glu Ile Glu Met
 385 390 395 400
 Lys Glu Lys Lys Asp Arg Val Asp Asp Ala Gln His Ala Thr Ile Ala
 405 410 415
 Ala Val Glu Glu Gly Ile Leu Pro Gly Gly Gly Thr Ala Leu Val Arg
 420 425 430
 Cys Ile Pro Thr Leu Glu Ala Phe Leu Pro Met Leu Ala Asn Glu Asp
 435 440 445
 Glu Ala Ile Gly Thr Arg Ile Ile Leu Lys Ala Leu Thr Ala Pro Leu
 450 455 460
 Lys Gln Ile Ala Ser Asn Ala Gly Lys Glu Gly Ala Ile Ile Cys Gln
 465 470 475 480
 Gln Val Leu Ala Arg Ser Ala Asn Glu Gly Tyr Asp Ala Leu Arg Asp
 485 490 495
 Ala Tyr Thr Asp Met Ile Asp Ala Gly Ile Leu Asp Pro Thr Lys Val
 500 505 510
 Thr Arg Ser Ala Leu Glu Ser Ala Ala Ser Ile Ala Gly Leu Leu Leu
 515 520 525
 Thr Thr Glu Ala Leu Ile Ala Asp Ile Pro Glu Glu Lys Ser Ser Ser
 530 535 540
 Ala Pro Ala Met Pro Ser Ala Gly Met Asp Tyr
 545 550 555

<210> 137
 <211> 102
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0135

<400> 137
 Met Ser Asp Gln Ala Thr Thr Leu Arg Ile Lys Pro Leu Gly Asp Arg
 1 5 10 15
 Ile Leu Val Lys Arg Glu Glu Glu Glu Ala Thr Ala Arg Gly Gly Ile
 20 25 30
 Ile Leu Pro Asp Thr Ala Lys Lys Lys Gln Asp Arg Ala Glu Val Leu
 35 40 45
 Val Leu Gly Thr Gly Lys Arg Thr Asp Asp Gly Thr Leu Leu Pro Phe
 50 55 60
 Glu Val Gln Val Gly Asp Ile Ile Leu Met Asp Lys Tyr Ala Gly Gln
 65 70 75 80
 Glu Ile Thr Ile Asp Asp Glu Glu Tyr Val Ile Leu Gln Ser Ser Glu
 85 90 95
 Ile Met Ala Val Leu Lys
 100

<210> 138
 <211> 617
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0136

<400> 138

Lys Gly Val Pro Ser Leu Met Thr Thr Glu Leu Lys Thr Glu Ala Leu
1 5 10 15
Pro Thr Arg Thr Gln Val Asp Pro Lys His Cys Trp Asp Thr Thr Leu
20 25 30
Met Tyr Ala Asn Arg Glu Glu Trp Lys Lys Asp Phe Asp Leu Cys Ser
35 40 45
Ser Gly Lys Asp Arg Ser Pro Ile Trp Pro Glu Phe Ser Pro Ser His
50 55 60
Tyr Gln Ile Asp Asn Pro Glu Ser Leu Leu Glu Leu Ser Lys Lys
65 70 75 80
Phe Ser Val Glu Arg Lys Leu Asp Gln Leu Tyr Ile Tyr Ala His Leu
85 90 95
Ile His Asp Gln Asp Ile Thr Asn Pro Glu Gly Glu Ser Asp Tyr Gln
100 105 110
Ser Ile Val Tyr Leu Tyr Thr Leu Phe Ser Gln Glu Ile Ser Trp Ile
115 120 125
Gln Pro Ala Leu Ile Ala Leu Ser Glu Glu Lys Val Ala Ala Leu Leu
130 135 140
Ser Ser Ser Val Leu Ala Pro Tyr Arg Phe Tyr Leu Glu Lys Ile Phe
145 150 155 160
Arg Leu Ser Pro His Thr Gly Thr Ala Asn Glu Glu Lys Ile Leu Ala
165 170 175
Ser Ser Phe Ala Ala Leu Asn Val Ser Asn Lys Ala Phe Ser Ser Leu
180 185 190
Ser Asp Ala Glu Ile Pro Phe Gly Ile Ala Lys Asp Ser Asn Gly Glu
195 200 205
Glu His Pro Leu Ser His Ala Leu Ala Ser Leu Tyr Met Gln Ser Pro
210 215 220
Asp Gln Glu Leu Arg Arg Thr Ala Tyr Leu Ala Gln Phe Gln Arg Tyr
225 230 235 240
Tyr Asp Tyr Arg Asn Thr Phe Ala Asn Leu Leu Asn Gly Lys Val Gln
245 250 255
Ala His Leu Phe Glu Ala Lys Ala Arg Asn Tyr Pro Ser Cys Leu Glu
260 265 270
Ala Ser Leu Phe Gln His Asn Ile Pro Thr Thr Val Tyr Ile Asn Leu
275 280 285
Ile Asn Glu Thr Lys Lys His Thr Ser Leu Ile Asn Arg Tyr Phe Asn
290 295 300
Leu Lys Lys Glu Ala Leu Asn Leu Lys Glu Phe His Phe Tyr Asp Val
305 310 315 320
Tyr Ala Pro Ile Ser Gln Thr Thr Ser Lys Asn Tyr Ser Tyr Glu Glu
325 330 335
Gly Val Asp Leu Val Cys Lys Ser Leu Leu Pro Leu Gly Thr His Tyr
340 345 350
Val Glu Ile Leu Arg Asn Gly Leu Leu Ser Asn Arg Trp Val Asp Arg
355 360 365
Tyr Glu Asn Lys His Lys Arg Ser Gly Ala Tyr Ser Ser Gly Cys Tyr
370 375 380
Asp Ser Ala Pro Tyr Ile Leu Leu Asn Tyr Thr Asn Thr Leu Tyr Asp
385 390 395 400
Val Ser Val Ile Ala His Glu Ala Gly His Ser Met His Ser Tyr Phe
405 410 415
Ser Arg Glu Ala Gln Pro Tyr His Asp Ala Gln Tyr Pro Leu Phe Leu
420 425 430
Ala Glu Ile Ala Ser Thr Phe Asn Glu Met Leu Leu Met Glu Ala Leu
435 440 445
Ser Lys Ser Asp Gln Ser Lys Glu Asp Lys Ile Val Ile Ile Thr Lys
450 455 460
Thr Leu Asp Thr Ile Phe Ala Thr Leu Phe Arg Gln Thr Phe Phe Ala
465 470 475 480

Ala Phe Glu Tyr Glu Ile His Ser Ala Ala Glu Gln Gly Thr Pro Leu
485 490 495
Thr Glu Glu Phe Leu Ser Ala Thr Tyr Gly Asn Leu Gln Lys Glu Phe
500 505 510
Tyr Gly Gly Val Val Thr Ser Asp Ser Leu Ser Ala Leu Glu Trp Ala
515 520 525
Arg Ile Pro His Phe Tyr Tyr Asn Phe Tyr Val Tyr Gln Tyr Ala Thr
530 535 540
Gly Ile Ile Ala Ala Leu Ser Phe Ala Glu Lys Ile Leu Thr Gln Glu
545 550 555 560
Pro Gly Ala Leu Glu Leu Tyr Leu Lys Phe Leu Lys Ser Gly Arg Ser
565 570 575
Asp Phe Pro Leu Asn Ile Leu Lys Lys Ser Gly Leu Asp Met Thr Thr
580 585 590
Ser Ala Pro Leu Asp Lys Ala Phe Ala Phe Ile Thr Lys Lys Ile Asp
595 600 605
Leu Leu Ser Ser Leu Leu Ser Glu Asp
610 615

<210> 139
<211> 254
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0137

<400> 139
Val Cys Ser Met Asn Val Ala Asp Leu Leu Ser His Leu Glu Thr Leu
1 5 10 15
Leu Ser Ser Lys Ile Phe Gln Asp Tyr Gly Pro Asn Gly Leu Gln Val
20 25 30
Gly Asp Pro Gln Thr Pro Val Lys Lys Ile Ala Val Ala Val Thr Ala
35 40 45
Asp Leu Glu Thr Ile Lys Gln Ala Val Ala Ala Glu Ala Asn Val Leu
50 55 60
Ile Val His His Gly Ile Phe Trp Lys Gly Met Pro Tyr Pro Ile Thr
65 70 75 80
Gly Met Ile His Lys Arg Ile Gln Leu Leu Ile Glu His Asn Ile Gln
85 90 95
Leu Ile Ala Tyr His Leu Pro Leu Asp Ala His Pro Thr Leu Gly Asn
100 105 110
Asn Trp Arg Val Ala Leu Asp Leu Asn Trp His Asp Leu Lys Pro Phe
115 120 125
Gly Ser Ser Leu Pro Tyr Leu Gly Val Gln Gly Ser Phe Ser Pro Ile
130 135 140
Asp Ile Asp Ser Phe Ile Asp Leu Leu Ser Gln Tyr Tyr Gln Ala Pro
145 150 155 160
Leu Lys Gly Ser Ala Leu Gly Gly Pro Ser Arg Val Ser Ser Ala Ala
165 170 175
Leu Ile Ser Gly Gly Ala Tyr Arg Glu Leu Ser Ser Ala Ala Thr Ser
180 185 190
Gln Val Asp Cys Phe Ile Thr Gly Asn Phe Asp Glu Pro Ala Trp Ser
195 200 205
Thr Ala Leu Glu Ser Asn Ile Asn Phe Leu Ala Phe Gly His Thr Ala
210 215 220
Thr Glu Lys Val Gly Pro Lys Ser Leu Ala Glu His Leu Lys Ser Glu
225 230 235 240
Phe Pro Ile Ser Thr Thr Phe Ile Asp Thr Ala Asn Pro Phe
245 250

<210> 140
 <211> 465
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0138

<400> 140
 Thr Asn Ser Arg Leu Phe Leu Ala Ile Lys Asp Gln Leu Leu Gln Asn
 1 5 10 15
 Met Trp Lys Leu Thr Lys Arg Asn Ser Met Leu Asn Cys Ser Asn Gln
 20 25 30
 Lys His Thr Val Thr Phe Glu Glu Ala Cys Gln Val Phe Pro Gly Gly
 35 40 45
 Val Asn Ser Pro Val Arg Ala Cys Arg Ser Val Gly Val Thr Pro Pro
 50 55 60
 Ile Val Ser Ser Ala Gln Gly Asp Ile Phe Leu Asp Thr His Gly Arg
 65 70 75 80
 Glu Phe Ile Asp Phe Cys Gly Gly Trp Gly Ala Leu Ile His Gly His
 85 90 95
 Ser His Pro Lys Ile Val Lys Ala Ile Gln Lys Thr Ala Leu Lys Gly
 100 105 110
 Thr Ser Tyr Gly Leu Thr Ser Glu Glu Glu Ile Leu Phe Ala Thr Met
 115 120 125
 Leu Leu Ser Ser Leu Lys Leu Lys Glu His Lys Ile Arg Phe Val Ser
 130 135 140
 Ser Gly Thr Glu Ala Thr Met Thr Ala Val Arg Leu Ala Arg Gly Ile
 145 150 155 160
 Thr Asn Arg Ser Ile Ile Ile Lys Phe Ile Gly Gly Tyr His Gly His
 165 170 175
 Ala Asp Thr Leu Leu Gly Gly Ile Ser Thr Thr Glu Glu Thr Ile Asp
 180 185 190
 Asn Leu Thr Ser Leu Ile His Thr Pro Ser Pro His Ser Leu Leu Ile
 195 200 205
 Ser Leu Pro Tyr Asn Asn Ser Gln Ile Leu His His Val Met Glu Ala
 210 215 220
 Leu Gly Pro Gln Val Ala Gly Ile Ile Phe Glu Pro Ile Cys Ala Asn
 225 230 235 240
 Met Gly Ile Val Leu Pro Lys Ala Glu Phe Leu Asp Asp Ile Ile Glu
 245 250 255
 Leu Cys Lys Arg Phe Gly Ser Leu Ser Ile Met Asp Glu Val Val Thr
 260 265 270
 Gly Phe Arg Val Ala Phe Gln Gly Ala Gln Asp Ile Phe Asn Leu Ser
 275 280 285
 Pro Asp Ile Thr Ile Tyr Gly Lys Ile Leu Gly Gly Gly Leu Pro Ala
 290 295 300
 Ala Ala Leu Val Gly His Arg Ser Ile Leu Asp His Leu Met Pro Glu
 305 310 315 320
 Gly Thr Ile Phe Gln Ala Gly Thr Met Ser Gly Asn Phe Leu Ala Met
 325 330 335
 Ala Thr Gly His Ala Ala Ile Gln Leu Cys Gln Ser Glu Gly Phe Tyr
 340 345 350
 Asp His Leu Ser Gln Leu Glu Ala Leu Phe Tyr Ser Pro Ile Glu Glu
 355 360 365
 Glu Ile Arg Ser Gln Gly Phe Pro Val Ser Leu Val His Gln Gly Thr
 370 375 380
 Met Phe Ser Leu Phe Phe Thr Glu Ser Ala Pro Thr Asn Phe Asp Glu
 385 390 395 400
 Ala Lys Asn Ser Asp Val Glu Lys Phe Gln Thr Phe Tyr Ser Glu Val
 405 410 415

Phe Asp Asn Gly Val Tyr Leu Ser Pro Ser Pro Leu Glu Ala Asn Phe
 420 425 430
 Ile Ser Ser Ala His Thr Glu Glu Asn Leu Thr Tyr Ala Gln Asn Ile
 435 440 445
 Ile Ile Asp Ser Leu Ile Lys Ile Phe Asp Ser Ser Ala Gln Arg Phe
 450 455 460
 Phe
 465

<210> 141
 <211> 198
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0139

<400> 141
 Ser Pro Thr Lys Asn Lys Leu Arg Asp Ile Met Lys Ile Pro Tyr Ala
 1 5 10 15
 Arg Leu Glu Lys Gly Ser Leu Leu Val Ala Ser Pro Asp Ile Asn Gln
 20 25 30
 Gly Val Phe Ala Arg Ser Val Ile Leu Leu Cys Glu His Ser Leu Asn
 35 40 45
 Gly Ser Phe Gly Leu Ile Leu Asn Lys Thr Leu Gly Phe Glu Ile Ser
 50 55 60
 Asp Asp Ile Phe Thr Phe Glu Lys Val Ser Asn His Asn Ile Arg Phe
 65 70 75 80
 Cys Met Gly Gly Pro Leu Gln Ala Asn Gln Met Met Leu Leu His Ser
 85 90 95
 Cys Ser Glu Ile Pro Glu Gln Thr Leu Glu Ile Cys Pro Ser Val Tyr
 100 105 110
 Leu Gly Gly Asp Leu Pro Phe Leu Gln Glu Ile Ala Ser Ser Glu Ser
 115 120 125
 Gly Pro Glu Ile Asn Leu Cys Phe Gly Tyr Ser Gly Trp Gln Ala Gly
 130 135 140
 Gln Leu Glu Lys Glu Phe Leu Ser Asn Asp Trp Phe Leu Ala Pro Gly
 145 150 155 160
 Asn Lys Asp Tyr Val Phe Tyr Ser Glu Pro Glu Asp Leu Trp Ala Leu
 165 170 175
 Val Leu Lys Asp Leu Gly Gly Lys Tyr Ala Ser Leu Ser Thr Val Pro
 180 185 190
 Asp Asn Leu Leu Leu Asn
 195

<210> 142
 <211> 156
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0140

<400> 142
 Pro Arg Ser Asn Gln Gln Lys Ile Phe Cys Met Ser Leu Glu Lys Glu
 1 5 10 15
 Leu Leu Glu Glu Thr Pro Leu Val Leu Leu Asn Phe Tyr Lys Leu Val
 20 25 30
 Ser Phe Cys Asn Tyr Ala Gly Met Ile Leu Gly Thr Glu Glu Lys Lys
 35 40 45

Phe Ala Ile Tyr Gly His Val Ser Met Gly Gln Ala Phe Gln Gly Ala
 50 55 60
 Asp Thr Glu Gly His Ser Pro Gln Arg Pro Phe Ala His Asp Leu Leu
 65 70 75 80
 Asn Phe Val Phe Ser Gly Phe Asp Ile Gln Val Leu Arg Val Val Ile
 85 90 95
 Asn Asp Tyr Lys Asp Asn Val Phe Tyr Thr Arg Leu Phe Leu Glu Gln
 100 105 110
 Lys Asp Arg Glu Phe Leu Tyr Val Val Asp Val Asp Ala Arg Pro Ser
 115 120 125
 Asp Ser Ile Pro Leu Ala Leu Thr His Lys Ile Pro Ile Leu Cys Val
 130 135 140
 Lys Ser Val Phe Asp Ala Val Val Pro Tyr Glu Glu
 145 150 155

<210> 143
 <211> 236
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0141

<400> 143
 His Ser Ser Ser Ala Val Glu Lys Asp Leu His Leu His Glu Lys Lys
 1 5 10 15
 Cys Leu Ala His Glu Ala Ala Thr Gln Val Thr Ser Gly Met Ile Leu
 20 25 30
 Gly Leu Gly Ser Gly Ser Thr Ala Lys Glu Phe Ile Phe Ala Leu Ala
 35 40 45
 His Arg Ile Gln Thr Glu Ser Leu Ala Val His Ala Ile Ala Ser Ser
 50 55 60
 Gln Asn Ser Tyr Ala Leu Ala Lys Gln Leu Ala Ile Pro Leu Leu Asn
 65 70 75 80
 Pro Glu Lys Phe Ser Ser Leu Asp Leu Thr Val Asp Gly Ala Asp Glu
 85 90 95
 Val Asp Pro Gln Leu Arg Met Ile Lys Gly Gly Gly Gly Ala Ile Phe
 100 105 110
 Arg Glu Lys Ile Leu Leu Arg Ala Ala Lys Arg Ser Ile Ile Leu Val
 115 120 125
 Asp Glu Ser Lys Leu Val Pro Val Leu Gly Lys Phe Arg Val Pro Leu
 130 135 140
 Glu Ile Ser Arg Phe Gly Arg Ser Ala Ile Ile Glu Glu Ile Arg His
 145 150 155 160
 Leu Gly Tyr Glu Gly Glu Trp Arg Leu Gln Asp Thr Gly Asp Leu Phe
 165 170 175
 Ile Thr Asp Ser Ser Asn Tyr Ile Tyr Asp Ile Phe Ser Pro Asn Ser
 180 185 190
 Tyr Pro Asn Pro Glu Lys Asp Leu Leu Lys Leu Ile Gln Ile His Gly
 195 200 205
 Val Ile Glu Val Gly Phe Val Ile Glu Lys Val Glu Val Trp Ser Ser
 210 215 220
 Asn Ser Gln Gly Leu Ile Ser Lys Lys Tyr Ser Val
 225 230 235

<210> 144
 <211> 102
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0142

<400> 144

Ser	His	Ser	Tyr	Ser	Lys	Ser	Lys	Gly	Thr	Leu	Glu	Lys	Phe	His	Phe
1				5					10					15	
Lys	Ile	Leu	Gln	Leu	Leu	Ser	Thr	Lys	Asn	Ser	Ile	Leu	Asn	Phe	Cys
			20					25					30		
Ser	His	Phe	Glu	Ile	Ser	Arg	Val	Ser	His	Asp	Asn	Ala	Ile	Gln	Lys
		35					40					45			
Ile	Arg	Ser	Tyr	Pro	Leu	Lys	Pro	Ile	Ala	Glu	Asn	Arg	Ile	Asn	Thr
	50					55					60				
Leu	Ser	Phe	Lys	Asp	Leu	Lys	Ile	Asp	Tyr	Pro	Lys	Asp	Ser	Ser	Lys
65					70					75					80
Arg	Phe	Arg	Phe	Leu	Tyr	Ser	Ile	Gly	Arg	Ile	Pro	Leu	His	Lys	Leu
				85					90					95	
Trp	Glu	Tyr	Phe	Val	Thr										
			100												

<210> 145

<211> 378

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0143

<400> 145

Arg	Arg	Thr	Ile	Met	Asn	Thr	Ser	Leu	Lys	Arg	Pro	Leu	Lys	Ser	His
1				5					10					15	
Phe	Asp	Val	Val	Gly	Ser	Phe	Leu	Arg	Pro	Glu	His	Leu	Lys	Lys	Thr
			20					25					30		
Arg	Glu	Ser	Leu	Lys	Glu	Gly	Ser	Ile	Ser	Leu	Asp	Gln	Leu	Met	Gln
		35					40					45			
Ile	Glu	Asp	Ile	Ala	Ile	Gln	Asp	Leu	Ile	Lys	Lys	Gln	Lys	Ala	Ala
	50					55					60				
Gly	Leu	Ser	Phe	Ile	Thr	Asp	Gly	Glu	Phe	Arg	Arg	Ala	Thr	Trp	His
65					70					75					80
Tyr	Asp	Phe	Met	Trp	Gly	Phe	His	Gly	Val	Gly	His	His	Arg	Ala	Thr
			85						90					95	
Glu	Gly	Val	Phe	Phe	Asp	Gly	Glu	Arg	Ala	Met	Ile	Asp	Asp	Thr	Tyr
			100					105					110		
Leu	Thr	Asp	Lys	Ile	Ser	Val	Ser	His	His	Pro	Phe	Val	Asp	His	Phe
	115						120					125			
Lys	Phe	Val	Lys	Ala	Leu	Glu	Asp	Glu	Phe	Thr	Thr	Ala	Lys	Gln	Thr
	130						135					140			
Leu	Pro	Ala	Pro	Ala	Gln	Phe	Leu	Lys	Gln	Met	Ile	Phe	Pro	Asn	Asn
145					150					155					160
Ile	Glu	Val	Thr	Arg	Lys	Phe	Tyr	Pro	Thr	Asn	Gln	Glu	Leu	Ile	Glu
			165						170					175	
Asp	Ile	Val	Ala	Gly	Tyr	Arg	Lys	Val	Ile	Arg	Asp	Leu	Tyr	Asp	Ala
			180					185					190		
Gly	Cys	Arg	Tyr	Leu	Gln	Leu	Asp	Asp	Cys	Thr	Arg	Gly	Gly	Leu	Val
	195						200					205			
Asp	Pro	Arg	Val	Cys	Ser	Trp	Tyr	Gly	Ile	Asp	Glu	Lys	Gly	Leu	Gln
	210					215						220			
Asp	Leu	Ile	Gln	Gln	Tyr	Leu	Leu	Ile	Asn	Asn	Leu	Val	Ile	Ala	Asp
225					230					235					240
Arg	Pro	Asp	Asp	Leu	Val	Val	Asn	Leu	His	Val	Cys	Arg	Gly	Asn	Tyr
				245					250					255	

His Ser Lys Phe Phe Ala Ser Gly Ser Tyr Asp Phe Ile Ala Lys Pro
 260 265 270
 Leu Phe Glu Gln Thr Asn Val Asp Gly Tyr Tyr Leu Glu Phe Asp His
 275 280 285
 Glu Arg Ser Gly Asp Phe Ser Pro Leu Thr Phe Ile Ser Gly Glu Lys
 290 295 300
 Thr Val Cys Leu Gly Leu Val Thr Ser Lys Thr Pro Thr Leu Glu Asn
 305 310 315 320
 Lys Asp Glu Val Ile Ala Arg Ile His Gln Ala Ala Asp Tyr Leu Pro
 325 330 335
 Leu Glu Arg Leu Ser Leu Ser Pro Gln Cys Gly Phe Ala Ser Cys Glu
 340 345 350
 Ile Gly Asn Lys Leu Thr Glu Glu Glu Gln Trp Ala Lys Val Ala Leu
 355 360 365
 Val Lys Glu Ile Ser Glu Glu Val Trp Lys
 370 375

<210> 146
 <211> 873
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0144

<400> 146
 Lys Val Leu Gly Val Asn Phe Met Glu Lys Phe Ser Asp Ala Val Ser
 1 5 10 15
 Glu Ala Leu Glu Lys Ala Phe Glu Leu Ala Lys Ser Ser Lys His Thr
 20 25 30
 Tyr Val Thr Glu Asn His Leu Leu Leu Ala Leu Leu Glu Asn Thr Glu
 35 40 45
 Ser Leu Phe Tyr Leu Val Ile Lys Asp Ile His Gly Asn Pro Gly Leu
 50 55 60
 Leu Asn Thr Ala Val Lys Asp Ala Leu Ser Arg Glu Pro Thr Val Val
 65 70 75 80
 Glu Gly Glu Val Asp Pro Lys Pro Ser Pro Gly Leu Gln Thr Leu Leu
 85 90 95
 Arg Asp Ala Lys Gln Glu Ala Lys Thr Leu Gly Asp Glu Tyr Ile Ser
 100 105 110
 Gly Asp His Leu Leu Leu Ala Phe Trp Ser Ser Asn Lys Glu Pro Phe
 115 120 125
 Asn Ser Trp Lys Gln Thr Thr Lys Val Ser Phe Lys Asp Leu Lys Asn
 130 135 140
 Leu Ile Thr Lys Ile Arg Arg Gly Asn Arg Met Asp Ser Pro Ser Ala
 145 150 155 160
 Glu Ser Asn Phe Gln Gly Leu Glu Lys Tyr Cys Lys Asn Leu Thr Ala
 165 170 175
 Leu Ala Arg Glu Gly Lys Leu Asp Pro Val Ile Gly Arg Asp Glu Glu
 180 185 190
 Ile Arg Arg Thr Ile Gln Val Leu Ser Arg Arg Thr Lys Asn Asn Pro
 195 200 205
 Met Leu Ile Gly Glu Pro Gly Val Gly Lys Thr Ala Ile Ala Glu Gly
 210 215 220
 Leu Ala Leu Arg Leu Ile Gln Gly Asp Val Pro Glu Ser Leu Lys Gly
 225 230 235 240
 Lys Gln Leu Tyr Val Leu Asp Met Gly Ala Leu Ile Ala Gly Ala Lys
 245 250 255
 Tyr Arg Gly Glu Phe Glu Glu Arg Leu Lys Ser Val Leu Lys Asp Val
 260 265 270

Glu	Ser	Gly	Asp	Gly	Glu	His	Ile	Ile	Phe	Ile	Asp	Glu	Val	His	Thr	275	280	285
Leu	Val	Gly	Ala	Gly	Ala	Thr	Asp	Gly	Ala	Met	Asp	Ala	Ala	Asn	Leu	290	295	300
Leu	Lys	Pro	Ala	Leu	Ala	Arg	Gly	Thr	Leu	His	Cys	Ile	Gly	Ala	Thr	305	310	315
Thr	Leu	Asn	Glu	Tyr	Gln	Lys	Tyr	Ile	Glu	Lys	Asp	Ala	Ala	Leu	Glu	325	330	335
Arg	Arg	Phe	Gln	Pro	Ile	Phe	Val	Thr	Glu	Pro	Ser	Leu	Glu	Asp	Ala	340	345	350
Val	Phe	Ile	Leu	Arg	Gly	Leu	Arg	Glu	Lys	Tyr	Glu	Ile	Phe	His	Gly	355	360	365
Val	Arg	Ile	Thr	Glu	Gly	Ala	Leu	Asn	Ala	Ala	Val	Leu	Leu	Ser	Tyr	370	375	380
Arg	Tyr	Ile	Pro	Asp	Arg	Phe	Leu	Pro	Asp	Lys	Ala	Ile	Asp	Leu	Ile	385	390	395
Asp	Glu	Ala	Ala	Ser	Leu	Ile	Arg	Met	Gln	Ile	Gly	Ser	Leu	Pro	Leu	405	410	415
Pro	Ile	Asp	Glu	Lys	Glu	Arg	Glu	Leu	Ala	Ala	Leu	Ile	Val	Lys	Gln	420	425	430
Glu	Ala	Ile	Lys	Arg	Glu	Gln	Ser	Pro	Ser	Tyr	Gln	Glu	Glu	Ala	Asp	435	440	445
Ala	Met	Gln	Lys	Ser	Ile	Asp	Ala	Leu	Arg	Glu	Glu	Leu	Ala	Ser	Leu	450	455	460
Arg	Leu	Gly	Trp	Asp	Glu	Glu	Lys	Lys	Leu	Ile	Ser	Gly	Leu	Lys	Glu	465	470	475
Lys	Lys	Asn	Ser	Leu	Glu	Ser	Met	Lys	Phe	Ser	Glu	Glu	Glu	Ala	Glu	485	490	495
Arg	Val	Ala	Asp	Tyr	Asn	Arg	Val	Ala	Glu	Leu	Arg	Tyr	Ser	Leu	Ile	500	505	510
Pro	Gln	Leu	Glu	Glu	Glu	Ile	Lys	Gln	Asp	Glu	Ala	Ser	Leu	Asn	Gln	515	520	525
Arg	Asp	Asn	Arg	Leu	Leu	Gln	Glu	Glu	Val	Asp	Glu	Arg	Leu	Ile	Ala	530	535	540
Gln	Val	Val	Ala	Asn	Trp	Thr	Gly	Ile	Pro	Val	Gln	Lys	Met	Leu	Glu	545	550	555
Gly	Glu	Ala	Glu	Lys	Leu	Leu	Ile	Leu	Glu	Glu	Ser	Leu	Glu	Glu	Arg	565	570	575
Val	Val	Gly	Gln	Pro	Phe	Ala	Val	Ser	Ala	Val	Ser	Asp	Ser	Ile	Arg	580	585	590
Ala	Ala	Arg	Val	Gly	Leu	Asn	Asp	Pro	Gln	Arg	Pro	Leu	Gly	Val	Phe	595	600	605
Leu	Phe	Leu	Gly	Pro	Thr	Gly	Val	Gly	Lys	Thr	Glu	Leu	Ala	Lys	Ala	610	615	620
Leu	Ala	Asp	Leu	Leu	Phe	Asn	Lys	Glu	Glu	Ala	Met	Val	Arg	Phe	Asp	625	630	635
Met	Ser	Glu	Tyr	Met	Glu	Lys	His	Ser	Ile	Ser	Lys	Leu	Ile	Gly	Ser	645	650	655
Ser	Pro	Gly	Tyr	Val	Gly	Tyr	Glu	Glu	Gly	Gly	Ser	Leu	Ser	Glu	Ala	660	665	670
Leu	Arg	Arg	Arg	Pro	Tyr	Ser	Val	Val	Leu	Phe	Asp	Glu	Ile	Glu	Lys	675	680	685
Ala	Asp	Lys	Glu	Val	Leu	Asn	Ile	Leu	Leu	Gln	Val	Phe	Asp	Asp	Gly	690	695	700
Ile	Leu	Thr	Asp	Gly	Lys	Lys	Arg	Lys	Val	Asn	Cys	Lys	Asn	Ala	Leu	705	710	715
Phe	Ile	Met	Thr	Ser	Asn	Ile	Gly	Ser	Pro	Glu	Leu	Ala	Asp	Tyr	Cys	725	730	735
Ser	Lys	Lys	Gly	Ser	Glu	Leu	Thr	Lys	Glu	Ala	Ile	Leu	Ser	Val	Val	740	745	750

Ser Pro Val Leu Lys Arg Tyr Leu Ser Pro Glu Phe Met Asn Arg Ile
 755 760 765
 Asp Glu Ile Leu Pro Phe Val Pro Leu Thr Lys Glu Asp Ile Val Lys
 770 775 780
 Ile Val Gly Ile Gln Met Arg Arg Ile Ala Gln Arg Leu Lys Ala Arg
 785 790 795 800
 Arg Ile Asn Leu Ser Trp Asp Asp Ser Val Ile Leu Phe Leu Ser Glu
 805 810 815
 Gln Gly Tyr Asp Ser Ala Phe Gly Ala Arg Pro Leu Lys Arg Leu Ile
 820 825 830
 Gln Gln Lys Val Val Ile Leu Leu Ser Lys Ala Leu Leu Lys Gly Asp
 835 840 845
 Ile Lys Pro Asp Thr Ser Ile Glu Leu Thr Met Ala Lys Glu Val Leu
 850 855 860
 Val Phe Lys Lys Val Glu Thr Pro Ser
 865 870

<210> 147
 <211> 551
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0145

<400> 147
 Asn Cys Ala Ala Ser Phe Ile Trp Leu Asn Lys Ser Ser His Arg Asn
 1 5 10 15
 Leu Arg Ser Pro Met Phe Lys Ser Phe Ile Val Arg Tyr Met Phe Val
 20 25 30
 Gly Gly Leu Val Ser Phe Leu Leu Pro Ile Pro Asp Leu Glu Cys Ala
 35 40 45
 Asn Asn Val Thr Lys Thr Tyr Asp Lys Lys Ala Ser Val Ile Ser Arg
 50 55 60
 Asp Leu Lys Leu Gln Glu Asp Cys Gln Lys Phe Trp Asn Leu Asp Pro
 65 70 75 80
 Tyr Lys Leu Glu Ser Leu Cys Ala Tyr Gln Val Leu Tyr His Asp Asp
 85 90 95
 Tyr Ser Ser Lys Arg Ile Arg Glu Leu Phe Pro Gln Ile Gln Lys Asp
 100 105 110
 Glu Val Pro Ile Phe Ala Thr Met Ile Leu Thr Leu Gly Lys Val Asp
 115 120 125
 Arg Gly Phe Ser Pro Glu Glu Ile Ser Leu Ile Gln Lys Leu Ser Tyr
 130 135 140
 Pro Gly Leu Ser Leu Ala Ser Leu Arg Gly Ser Thr Glu Ile Asp Pro
 145 150 155 160
 Asn Thr Asp Leu Ala Arg Ala Leu Val Val Ser Glu Phe Ser Gly Asp
 165 170 175
 Leu Gly Lys Asn Arg Ala Asp Tyr Tyr Ser Asn Cys Leu Asp Ile Leu
 180 185 190
 Ala Leu Arg Ile His Ala Glu Arg Gln Arg Tyr Leu Asp Gln Ser Pro
 195 200 205
 Cys Val Pro Gly Thr Ser Glu Phe His Lys Ala Thr Ile Glu Ala Ile
 210 215 220
 Asn Thr Ile Leu Phe Tyr Glu Glu Ala Val Arg Tyr Pro Ser Lys Lys
 225 230 235 240
 Glu Met Phe Ser Asp Glu Phe Ser Phe Leu Ser Ser Val Thr Asp Arg
 245 250 255
 Lys Phe Gly Val Cys Leu Gly Val Ser Ser Leu Tyr Phe Ser Leu Ser
 260 265 270

Gln Arg Leu Asp Leu Pro Leu Glu Ala Val Thr Pro Pro Gly His Ile
 275 280 285
 Tyr Leu Arg Tyr Gln Gly Gly Glu Val Asn Ile Glu Thr Thr Ala Gly
 290 295 300
 Gly Arg His Leu Pro Thr Ala Ser Tyr Cys Asp Cys Leu Asp Leu Glu
 305 310 315 320
 Asp Leu Gln Val Arg Thr Pro Glu Glu Met Ile Gly Leu Thr Phe Met
 325 330 335
 Asn Gln Gly Ser Phe Ala Leu Gln Lys Lys Lys Tyr Lys Glu Ala Glu
 340 345 350
 Glu Ala Tyr Lys Lys Ala Gln Glu Tyr Leu Gly Asp Glu Glu Leu Gln
 355 360 365
 Glu Leu Leu Gly Phe Val Gln Ile Leu Gly Gly Lys Lys Lys Glu Gly
 370 375 380
 Lys Ser Leu Ile Gly Lys Ser Pro Arg Ala Ser Gln Lys Gly Ser Val
 385 390 395 400
 Ala Tyr Asp Tyr Leu Lys Gly Arg Ile Asn Ile Pro Thr Leu Ala Leu
 405 410 415
 Leu Phe Ser Tyr Pro Gly Ser Asn Tyr Glu Glu Ile Ala Ser Tyr Glu
 420 425 430
 Glu Glu Leu Lys Lys Ala Met Lys Ser Ser Met Pro Cys Cys Glu Gly
 435 440 445
 Gln Arg Arg Leu Ala Ser Val Ala Phe His Leu Gly Lys Thr Ala Glu
 450 455 460
 Ala Val Ala Leu Leu Glu Lys Cys Val Glu Asp Ile Pro Asn Asp Leu
 465 470 475 480
 Ser Leu His Leu Arg Leu Cys Lys Ile Leu Cys Asp Arg His Glu Tyr
 485 490 495
 Thr Lys Ala Leu Lys Tyr Phe Ile Ile Ala Glu Arg Leu Met Glu Asp
 500 505 510
 Gln Gly Phe Leu Lys Lys Asp Asn Arg Ser Phe Ala Leu Phe Tyr Glu
 515 520 525
 Val Lys Lys Ile Ile Ser Lys Val Ala Pro Gln Lys Ala Asn Thr Leu
 530 535 540
 Leu Leu Met Glu Ser Glu Arg
 545 550

<210> 148
 <211> 167
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0146

<400> 148
 Ile Ile Val Gly Ile Ser Met Ser Ser Ser Glu Val Val Phe Gln Thr
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 Val His Gly Leu Gly Phe Gly Gly Leu Ser Ser Lys Ser Val Val Pro
 20 25 30
 Phe Lys Lys Ser Leu Ser Asp Ala Pro Arg Val Val Cys Ser Ile Leu
 35 40 45
 Val Leu Thr Leu Gly Leu Gly Ala Leu Val Cys Gly Ile Ala Ile Thr
 50 55 60
 Cys Trp Cys Val Pro Gly Val Ile Leu Met Gly Gly Ile Cys Ala Ile
 65 70 75 80
 Val Leu Gly Ala Ile Ser Leu Ala Leu Ser Leu Phe Trp Leu Trp Gly
 85 90 95
 Leu Phe Ser Asn Cys Cys Gly Ser Lys Arg Val Leu Pro Gly Glu Gly
 100 105 110

Leu Leu Arg Asp Lys Leu Leu Asp Gly Gly Phe Ser Arg Ala Ala Pro
 115 120 125
 Ser Gly Met Gly Leu Pro Gly Asp Gly Ser Pro Arg Ala Ser Thr Pro
 130 135 140
 Ser Cys Leu Glu Glu Leu Gln Ala Glu Ile Gln Ala Val Thr Gln Ala
 145 150 155 160
 Ile Asp Gln Met Ser Asp Asp
 165

<210> 149
 <211> 153
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0147

 <400> 149
 His Gly Gly Pro Met Ala Val Gln Ser Ile Lys Glu Ala Val Thr Ser
 1 5 10 15
 Ala Ala Thr Ser Val Gly Cys Val Asn Cys Ser Arg Glu Ala Ile Pro
 20 25 30
 Ala Phe Asn Thr Glu Glu Arg Ala Thr Ser Ile Ala Arg Ser Val Ile
 35 40 45
 Ala Ala Ile Ile Ala Val Val Ala Ile Ser Leu Leu Gly Leu Gly Leu
 50 55 60
 Val Val Leu Ala Gly Cys Cys Pro Leu Gly Met Ala Ala Gly Ala Ile
 65 70 75 80
 Thr Met Leu Leu Gly Val Ala Leu Leu Ala Trp Ala Ile Leu Ile Thr
 85 90 95
 Leu Arg Leu Leu Asn Ile Pro Lys Ala Glu Ile Pro Ser Pro Gly Asn
 100 105 110
 Asn Gly Glu Pro Asn Glu Arg Asn Ser Ala Thr Pro Pro Leu Glu Gly
 115 120 125
 Gly Val Ala Gly Glu Ala Gly Arg Gly Gly Gly Ser Pro Leu Thr Gln
 130 135 140
 Leu Asp Leu Asn Ser Gly Ala Gly Ser
 145 150

<210> 150
 <211> 627
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0148

 <400> 150
 Gly Lys Trp Trp Arg Val Ser Ser Met Glu Ser Glu Lys Asp Ile Gly
 1 5 10 15
 Ala Lys Phe Leu Gly Asp Tyr Arg Ile Leu Tyr Arg Lys Gly Gln Ser
 20 25 30
 Leu Trp Ser Glu Asp Leu Leu Ala Glu His Arg Phe Ile Lys Lys Arg
 35 40 45
 Tyr Leu Ile Arg Leu Leu Leu Pro Asp Leu Gly Ser Ser Gln Pro Phe
 50 55 60
 Met Glu Ala Phe His Asp Val Val Val Lys Leu Ala Lys Leu Asn His
 65 70 75 80
 Pro Gly Ile Leu Ser Ile Glu Asn Val Ser Glu Ser Glu Gly Arg Cys
 85 90 95

Phe Leu Val Thr Gln Glu Gln Asp Ile Pro Ile Leu Ser Leu Thr Gln
100 105 110
Tyr Leu Lys Ser Ile Pro Arg Lys Leu Thr Glu Leu Glu Ile Val Asp
115 120 125
Ile Val Ser Gln Leu Ala Ser Leu Leu Asp Tyr Val His Ser Glu Gly
130 135 140
Leu Ala Gln Glu Glu Trp Asn Leu Asp Ser Val Tyr Ile His Ile Leu
145 150 155 160
Asn Gly Val Pro Lys Val Ile Leu Pro Asp Leu Gly Phe Ala Ser Leu
165 170 175
Ile Lys Glu Arg Ile Leu Asp Gly Phe Ile Ser Asp Glu Glu Asn Arg
180 185 190
Glu Ser Lys Ile Lys Glu Arg Val Leu Leu His Thr Ser Glu Gly Lys
195 200 205
Gln Gly Arg Glu Asp Thr Tyr Ala Phe Gly Ala Ile Thr Tyr Tyr Leu
210 215 220
Leu Phe Gly Phe Leu Pro Gln Gly Ile Phe Pro Met Pro Ser Lys Val
225 230 235 240
Phe Ser Asp Phe Ile Tyr Asp Trp Asp Phe Leu Ile Ser Ser Cys Leu
245 250 255
Ser Cys Phe Met Glu Glu Arg Ala Lys Glu Leu Phe Pro Leu Ile Arg
260 265 270
Lys Lys Thr Leu Gly Glu Glu Leu Gln Asn Val Val Thr Asn Cys Ile
275 280 285
Glu Ser Ser Leu Arg Glu Val Pro Asp Pro Leu Glu Ser Ser Gln Asn
290 295 300
Leu Pro Gln Ala Val Leu Lys Val Gly Glu Thr Lys Val Ser His Gln
305 310 315 320
Gln Lys Glu Ser Ala Glu His Leu Glu Phe Val Leu Val Glu Ala Cys
325 330 335
Ser Ile Asp Glu Ala Met Asp Thr Ala Ile Glu Ser Glu Ser Ser Ser
340 345 350
Gly Val Glu Glu Glu Gly Tyr Ser Leu Ala Leu Gln Ser Leu Leu Val
355 360 365
Arg Glu Pro Val Val Ser Arg Tyr Val Glu Ala Glu Lys Glu Glu Pro
370 375 380
Lys Pro Gln Pro Ile Leu Thr Glu Met Val Leu Ile Glu Gly Gly Glu
385 390 395 400
Phe Ser Arg Gly Ser Val Glu Gly Gln Arg Asp Glu Leu Pro Val His
405 410 415
Lys Val Ile Leu His Ser Phe Phe Leu Asp Val His Pro Val Thr Asn
420 425 430
Glu Gln Phe Ile Arg Tyr Leu Glu Cys Cys Gly Ser Glu Gln Asp Lys
435 440 445
Tyr Tyr Asn Glu Leu Ile Arg Leu Arg Asp Ser Arg Ile Gln Arg Arg
450 455 460
Ser Gly Arg Leu Val Ile Glu Pro Gly Tyr Ala Lys His Pro Val Val
465 470 475 480
Gly Val Thr Trp Tyr Gly Ala Ser Gly Tyr Ala Glu Trp Ile Gly Lys
485 490 495
Arg Leu Pro Thr Glu Ala Glu Trp Glu Ile Ala Ala Ser Gly Gly Val
500 505 510
Ala Ala Leu Arg Tyr Pro Cys Gly Glu Glu Ile Glu Lys Ser Arg Ala
515 520 525
Asn Phe Phe Thr Ala Asp Thr Thr Thr Val Met Ser Tyr Pro Pro Asn
530 535 540
Pro Tyr Gly Leu Tyr Asp Met Ala Gly Asn Val Tyr Glu Trp Cys Gln
545 550 555 560
Asp Trp Tyr Gly Tyr Asp Phe Tyr Glu Ile Ser Ala Gln Glu Pro Glu
565 570 575

Ser Pro Gln Gly Pro Ala Gln Gly Val Tyr Arg Val Leu Arg Gly Gly
580 585 590
Cys Trp Lys Ser Leu Lys Asp Asp Leu Arg Cys Ala His Arg His Arg
595 600 605
Asn Asn Pro Gly Ala Val Asn Ser Thr Tyr Gly Phe Arg Cys Ala Lys
610 615 620
Asn Ile Asn
625

<210> 151
<211> 665
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0149

<400> 151
Glu Arg Phe Met Lys Glu Glu Asn Ser Gln Ala His Tyr Leu Ala Leu
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Cys Arg Glu Leu Glu Asp His Asp Tyr Ser Tyr Tyr Val Leu His Arg
20 25 30
Pro Arg Ile Ser Asp Tyr Glu Tyr Asp Met Lys Leu Arg Lys Leu Leu
35 40 45
Glu Ile Glu Arg Ser His Pro Glu Trp Lys Val Leu Trp Ser Pro Ser
50 55 60
Thr Arg Leu Gly Asp Arg Pro Ser Gly Thr Phe Ser Val Val Ser His
65 70 75 80
Lys Glu Pro Met Leu Ser Ile Ala Asn Ser Tyr Ser Lys Glu Glu Leu
85 90 95
Ser Glu Phe Phe Ser Arg Val Glu Lys Ser Leu Gly Thr Ser Pro Arg
100 105 110
Tyr Thr Val Glu Leu Lys Ile Asp Gly Ile Ala Val Ala Ile Arg Tyr
115 120 125
Glu Asp Arg Val Leu Val Gln Ala Leu Ser Arg Gly Asn Gly Lys Gln
130 135 140
Gly Glu Asp Ile Thr Ser Asn Ile Arg Thr Ile Arg Ser Leu Pro Leu
145 150 155 160
Arg Leu Pro Glu Asp Ala Pro Glu Phe Ile Glu Val Arg Gly Glu Val
165 170 175
Phe Phe Ser Tyr Ser Thr Phe Gln Ile Ile Asn Glu Lys Gln Gln Gln
180 185 190
Leu Glu Lys Thr Ile Phe Ala Asn Pro Arg Asn Ala Ala Gly Gly Thr
195 200 205
Leu Lys Leu Leu Ser Pro Gln Glu Val Ala Lys Arg Lys Leu Glu Ile
210 215 220
Ser Ile Tyr Asn Leu Ile Ala Pro Gly Asp Asn Asp Ser His Tyr Glu
225 230 235 240
Asn Leu Gln Arg Cys Leu Glu Trp Gly Phe Pro Val Ser Gly Lys Pro
245 250 255
Arg Leu Cys Ser Thr Pro Glu Glu Val Ile Ser Val Leu Lys Thr Ile
260 265 270
Glu Thr Glu Arg Ala Ser Leu Pro Met Glu Ile Asp Gly Ala Val Ile
275 280 285
Lys Val Asp Ser Leu Ala Ser Gln Arg Val Leu Gly Ala Thr Gly Lys
290 295 300
His Tyr Arg Trp Ala Leu Ala Tyr Lys Tyr Ala Pro Glu Glu Ala Glu
305 310 315 320
Thr Leu Leu Glu Asp Ile Leu Val Gln Val Gly Arg Thr Gly Val Leu
325 330 335

Thr	Pro	Val	Ala	Lys	Leu	Thr	Pro	Val	Leu	Leu	Ser	Gly	Ser	Leu	Val
			340					345					350		
Ser	Arg	Ala	Ser	Leu	Tyr	Asn	Glu	Asp	Glu	Ile	His	Arg	Lys	Asp	Ile
		355					360					365			
Arg	Ile	Gly	Asp	Thr	Val	Cys	Val	Ala	Lys	Gly	Gly	Glu	Val	Ile	Pro
	370					375					380				
Lys	Val	Val	Arg	Val	Cys	Arg	Glu	Lys	Arg	Pro	Glu	Gly	Ser	Glu	Val
385					390					395					400
Trp	Asn	Met	Pro	Glu	Phe	Cys	Pro	Val	Cys	His	Ser	His	Val	Val	Arg
				405					410					415	
Glu	Glu	Asp	Arg	Val	Ser	Val	Arg	Cys	Val	Asn	Pro	Glu	Cys	Val	Ala
			420					425					430		
Gly	Ala	Ile	Glu	Lys	Ile	Arg	Phe	Phe	Val	Gly	Arg	Gly	Ala	Leu	Asn
	435						440					445			
Ile	Asp	His	Leu	Gly	Val	Lys	Val	Ile	Thr	Lys	Leu	Phe	Glu	Leu	Gly
	450					455					460				
Leu	Val	His	Thr	Cys	Ala	Asp	Leu	Phe	Gln	Leu	Thr	Thr	Glu	Asp	Leu
465					470					475					480
Met	Gln	Ile	Pro	Gly	Ile	Arg	Glu	Arg	Ser	Ala	Arg	Asn	Ile	Leu	Glu
				485					490					495	
Ser	Ile	Glu	Gln	Ala	Lys	His	Val	Asp	Leu	Asp	Arg	Phe	Leu	Val	Ala
			500					505					510		
Leu	Gly	Ile	Pro	Leu	Ile	Gly	Ile	Gly	Val	Ala	Thr	Val	Leu	Ala	Gly
	515						520						525		
His	Phe	Glu	Thr	Leu	Asp	Arg	Val	Ile	Ser	Ala	Thr	Phe	Glu	Glu	Leu
	530					535					540				
Leu	Ser	Leu	Glu	Gly	Ile	Gly	Glu	Lys	Val	Ala	His	Ala	Ile	Ala	Glu
545					550					555					560
Tyr	Phe	Ser	Asp	Ser	Thr	His	Leu	Asn	Glu	Ile	Lys	Lys	Met	Gln	Asp
			565						570					575	
Leu	Gly	Val	Cys	Ile	Ser	Pro	Tyr	His	Lys	Ser	Gly	Ser	Thr	Cys	Phe
			580					585					590		
Gly	Lys	Ala	Phe	Val	Ile	Thr	Gly	Thr	Leu	Glu	Gly	Met	Ser	Arg	Leu
	595						600					605			
Asp	Ala	Glu	Thr	Ala	Ile	Arg	Asn	Cys	Gly	Gly	Lys	Val	Gly	Ser	Ser
	610					615					620				
Val	Ser	Lys	Gln	Thr	Asp	Tyr	Val	Val	Met	Gly	Asn	Asn	Pro	Gly	Ser
625					630					635					640
Lys	Leu	Glu	Lys	Ala	Arg	Lys	Leu	Gly	Val	Ser	Ile	Leu	Asp	Gln	Glu
			645						650					655	
Ala	Phe	Thr	Asn	Leu	Ile	His	Leu	Glu							
			660					665							

<210> 152
 <211> 1562
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0150

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Ser	Phe	Phe	Val	Leu	Leu	Gly	Val	Asn	Met	Ala	Ser	Ser	Ser	Asn	Asn
			20					25					30		
Ser	Thr	Lys	Gln	Asp	Gly	Ile	Pro	Ser	Trp	Val	Asn	Pro	Asn	Val	Gln
		35					40					45			
Trp	Asn	Arg	Ala	Ser	Gln	Val	Gly	Asp	Gln	Glu	Ala	Asn	Ser	Leu	Thr
	50						55					60			

Pro	Glu	Ala	Gln	Thr	Ser	Arg	Ser	Trp	Phe	Ser	Asp	Arg	Lys	His	Phe
65					70					75					80
Leu	Glu	Val	Leu	Asp	Val	Ser	Leu	Glu	Glu	Met	Glu	Asn	Asn	Asp	Leu
			85					90						95	
Lys	Lys	Tyr	Ser	Arg	Tyr	Lys	Thr	Ile	Ile	Leu	Ile	Ala	Thr	Leu	Val
		100					105						110		
Thr	Val	Ala	Ile	Thr	Cys	Ile	Val	Pro	Ile	Ser	Met	Val	Phe	Gly	Ile
		115					120					125			
Pro	Met	Trp	Val	Pro	Cys	Leu	Ile	Leu	Phe	Gly	Ala	Gly	Leu	Ser	Ser
	130					135					140				
Ala	Phe	Leu	Ser	His	Arg	Leu	Gln	Ser	Lys	Cys	Lys	Glu	Ile	His	Leu
145					150					155					160
Arg	Tyr	Arg	Ala	Tyr	Gln	Ile	Tyr	Arg	Gln	Gln	Leu	Leu	Ser	Gln	Tyr
			165					170						175	
Pro	Asp	Leu	Arg	Lys	Ser	Thr	Leu	Tyr	Lys	Tyr	Ser	Ile	Thr	His	Val
		180						185					190		
Lys	Pro	Lys	Lys	Gly	Phe	Val	Gly	Lys	Leu	Val	Glu	Asn	Leu	Arg	Pro
	195						200					205			
Asp	Leu	His	Lys	Asn	Lys	Asp	Asp	Gly	Gly	Ala	Ala	Ala	Asp	Ser	Arg
	210					215					220				
Leu	Asp	Phe	Ala	Gly	Tyr	Gly	Val	Lys	His	Tyr	Gln	Thr	Asp	Ala	Leu
225					230					235					240
Leu	Gly	Val	Ser	Gly	Val	Asn	Ser	Val	Glu	Trp	Gln	Arg	Leu	Ala	Ser
			245						250					255	
Leu	Ile	Met	Ser	Val	Lys	Asn	Asp	Ile	Leu	Asn	Asp	Val	Gly	Ser	Arg
		260						265					270		
Glu	Pro	Ile	Asp	Lys	Ala	Gln	Arg	Ser	Ala	Leu	Val	Val	Ser	Gly	Lys
	275						280						285		
Asp	Ile	Gly	Gly	Glu	Ile	Gln	Pro	Gly	Gly	Ile	Leu	Asp	Ile	Ser	Arg
	290					295					300				
Asp	Ile	Leu	Ala	Ile	Cys	Gly	Tyr	Gly	Met	Asn	Val	Gly	Val	Glu	Ala
305					310					315					320
Lys	Lys	Ala	Ile	Asp	Gln	Tyr	Lys	Lys	Trp	Tyr	Leu	Asn	Ser	Ser	Thr
			325						330					335	
Phe	Ile	Ala	Trp	Asn	Pro	Gln	Leu	Pro	Ala	Ile	Ala	Gln	Ser	Tyr	Leu
		340						345						350	
Leu	Glu	Gln	Gln	Arg	His	Leu	Asp	Tyr	Ala	Ala	Lys	Ile	Phe	Gln	Asp
		355					360					365			
Leu	Ser	Ala	Leu	Thr	Thr	Ala	His	Gly	Thr	Gly	Gln	Ala	Leu	Glu	Asp
	370					375					380				
Leu	Asp	Ser	Leu	Leu	Cys	Tyr	Tyr	Asp	Gln	Leu	Ile	Glu	Ser	Lys	Gly
385					390					395					400
Val	Gly	Glu	Lys	Ile	Ile	Ala	Ser	Ile	His	Gln	Lys	His	Leu	Asp	Leu
			405						410					415	
Ala	Met	Gln	Asp	Ser	Cys	Asp	Gln	Glu	His	Leu	Lys	Lys	Trp	Ser	Asn
		420						425					430		
Leu	Tyr	His	Val	Phe	Ser	Ile	Thr	Ile	Lys	Glu	Phe	Thr	Glu	Gly	Lys
	435						440						445		
Leu	Glu	Gln	Asn	Glu	Val	Val	Ser	Arg	Ile	Gln	Arg	Leu	Arg	Gly	Lys
	450						455				460				
Leu	Glu	Lys	Ser	Lys	Cys	Ser	Ile	Leu	Gly	Asn	Cys	Arg	Thr	Asn	Ala
465					470					475					480
Glu	Tyr	Ala	Thr	Lys	Ser	Glu	Lys	Lys	Leu	Ala	Asp	Tyr	Leu	Leu	Gln
			485						490					495	
Ile	Gly	Asp	Arg	Glu	Pro	Phe	Leu	Thr	Gly	Met	His	Lys	Ala	Ile	Ala
		500						505					510		
Thr	Gly	Lys	Ala	Ile	Gln	Gly	Lys	Val	Glu	Gly	Val	Ile	Ser	Gln	His
		515					520					525			
Pro	Glu	Lys	Gln	Ile	Met	Met	Leu	Arg	Cys	Ser	Ile	Glu	Arg	Leu	Glu
	530					535						540			

Gly Met Leu Arg Arg Glu Asp Trp Gly Ala Ile Leu Gln Lys Asn Glu
 545 550 555 560
 Asp Glu Val Leu Ala Leu Lys Ser Thr Met Glu Ala Gln Leu Gln Gly
 565 570 575
 Phe Lys Asp Leu Val Gly Thr Trp Glu Gly Lys Tyr Gln Glu Phe Lys
 580 585 590
 Lys Asn Lys Leu Ser Lys Val Leu Val Tyr Asp Phe Thr Lys Ser Tyr
 595 600 605
 Ser Asn Leu Leu Asn Arg Leu Glu Val Leu His Ala Glu Ser Ser Thr
 610 615 620
 Asp Asp Leu Val Leu His Val Asp Arg Met Ser Glu Asp Leu Lys Lys
 625 630 635 640
 Thr Ile Glu Glu Ile Asp Gly Asn Leu Phe Gln Val Thr Pro Glu Glu
 645 650 655
 Leu Ser Leu Leu Ala Arg Glu Tyr Gln Gly Leu Met Asn Glu Leu Pro
 660 665 670
 Leu Ile Val Gln Glu Gly Asn Arg Leu Gln Glu Ala Ile Ser Ser Glu
 675 680 685
 Gly Val Ser Gln Gly Leu Met Leu Leu Asn Ser Leu Leu Asn Arg Asp
 690 695 700
 Glu Lys Ile Asn Lys Asn Ile Glu Ser Ser Arg Lys Asn Leu Val Ala
 705 710 715 720
 Ile Ala Lys Gln Ala Arg Ser Asp Ala Arg Asn Ile Asp Ser Gln Gly
 725 730 735
 Leu Ala Pro Leu Ile Gln Arg Asn Arg Ala Ser Leu Asp Asn Ile Leu
 740 745 750
 Gln Asn Met Tyr Leu Phe Asn Gly Ser Ile Arg Asn Ile His Ala Leu
 755 760 765
 Asp Thr Glu Thr Leu Val Ala Thr Ser Ser Asn Met Phe Ser Ala Met
 770 775 780
 His Thr Phe Asp Trp Asn Ile Tyr Thr Asn Leu Leu Asp Val Leu Glu
 785 790 795 800
 Ile Gln Ser Lys Pro Ala Pro Ala Pro Met Glu Asn Pro Asp Leu Pro
 805 810 815
 Gly Ala Leu Pro Glu Glu Val Gln Asp Ala Val Ala Glu Asp Val Ser
 820 825 830
 Gly Thr His Arg Leu His His Gln Val Leu Lys Arg Arg Cys Ala Asp
 835 840 845
 Leu Lys Asn Met Ile Ser Gln Leu Gln Lys Ser Ile Asn Lys Trp Gly
 850 855 860
 Met Ala Lys Ala Ile Val Leu Gly Ile Val Ala Val Leu Phe Cys Val
 865 870 875 880
 Leu Ser Ala Ile Phe Ile Gly Gln Asn Ile Leu Ser Leu Leu Ile Leu
 885 890 895
 Ser Cys Val Gly Leu Leu Leu Thr Gln Val Cys Pro Leu Ile Phe Asp
 900 905 910
 Arg Ile Ser Lys Ser Lys Glu Phe Glu Lys Gln Val Leu Glu Thr Ala
 915 920 925
 Gln Ser Leu Ile Pro Ala Thr Lys Ile Leu Pro Ser Glu Phe Asn Asn
 930 935 940
 Lys Asp Leu Asn Arg Leu Ala Lys Leu Gln Asp Asn Leu Asn Leu Glu
 945 950 955 960
 Gly Phe Gly Pro Thr Trp Ala Arg Asn Ile Val Ser Asp Leu Glu Gly
 965 970 975
 Ile Pro Thr Lys Glu Lys Ser Leu Lys Asp Leu Thr Lys Glu Phe Arg
 980 985 990
 Lys Asp Ser Lys Asn Leu Asn Lys Arg Ile Lys Arg Arg Phe Lys Glu
 995 1000 1005
 Gly Leu Gly Gln Glu Ala Pro Val Val Arg Pro Thr Ile Pro Gln Asp
 1010 1015 1020

Ile Arg Gly Ala Glu Val Phe Ala Glu Leu His Arg Glu Leu Glu His
 1025 1030 1035 1040
 Leu Gln Lys Gln Lys Glu Glu Ile Ser Ile Arg Gly Asp Ala Leu Val
 1045 1050 1055
 Gln Glu Arg Met Gly Leu Cys Leu Glu Lys Ser Lys Tyr Asp Asn Glu
 1060 1065 1070
 Lys Ala His Ala Ala Ala Met Thr Lys Lys Val Gly Lys Leu Gln Asn
 1075 1080 1085
 Ile Asp Arg Leu Gln Lys Asn Asn Glu Thr Tyr Val Arg Ile Gln Asn
 1090 1095 1100
 Phe Phe Arg Thr Leu Ile Gln Glu Lys Leu Gly Arg Asp Thr Val Gln
 1105 1110 1115 1120
 Glu Ile Asp Val Val Lys Glu Ala Lys Glu Leu His Glu Leu Ala Ala
 1125 1130 1135
 Ile Ile Tyr Gly Asn Thr Ser Gly Lys Ser Gln Lys Gln Arg Ala Lys
 1140 1145 1150
 Lys Gln Phe Lys Glu Asn Val Leu His Ile Ala Gly Lys Gly Gln Leu
 1155 1160 1165
 Glu Leu Leu Glu Ala Tyr Leu Asn Val Thr Ala Ser Gln Gly Leu Cys
 1170 1175 1180
 Arg His Gln Met Gln Ala Ser Phe Arg Glu Arg Ile Leu Leu Asn Pro
 1185 1190 1195 1200
 Asp Gly Ala Lys His Gly Glu Ala Glu Arg Thr Leu Ala Ser Arg Glu
 1205 1210 1215
 Glu Met Leu Lys Thr Leu Gly Leu Ser Tyr Leu Thr Pro Phe Val Arg
 1220 1225 1230
 Phe Ser Ser Pro Glu Ser Thr Gln Ser Gly Tyr Asn Gln Ile Leu Lys
 1235 1240 1245
 Val Arg Glu Gln Leu Phe Asp Ile Glu Gln Arg Leu Gln Asn Gln Glu
 1250 1255 1260
 Thr Val Ser Pro Glu Asp Tyr Ala Ala Val Gln Ala Ala Leu Ala Ala
 1265 1270 1275 1280
 Tyr Val Arg Lys His Glu Ser Leu Ile Val Ser Thr Tyr Gly Leu Gly
 1285 1290 1295
 Ala Gln Glu Gly Gln Thr Ser Ser Lys Val Thr Thr Leu Met Arg Asp
 1300 1305 1310
 Leu His Ala Val Glu Glu Leu Val Glu Met Gly Val Glu Thr Tyr Arg
 1315 1320 1325
 Leu Asn Arg Ser Asp Gln Ile Leu His Arg Val His Ser Val Leu His
 1330 1335 1340
 Ser His Leu Arg Asp Cys Asp Ser Ser Gly Asn Gly Ile Ile Asp Val
 1345 1350 1355 1360
 Val Lys Lys Leu Phe Glu Leu Leu Asn Asn Asn Gly Asn Asn Pro Asn
 1365 1370 1375
 Asp Pro Glu Cys Gln Lys Tyr Met Gln Ile Leu Leu Asp Ala Pro Val
 1380 1385 1390
 Ser Leu Leu Tyr Gly Ala Phe Lys Ser Phe Lys Asn Glu Phe Leu Leu
 1395 1400 1405
 Asn Phe Thr Glu Leu Asn Ile Ala Asn Ser Thr Lys Ala Ala Glu Glu
 1410 1415 1420
 Glu Ala Lys Arg Tyr Val Glu Glu Lys Gly Arg Gly Phe Glu Thr Tyr
 1425 1430 1435 1440
 Trp Glu Glu Ala Lys Gln Arg Leu Glu Ala Ile Ala Ala Glu Leu Asp
 1445 1450 1455
 Asp Leu Arg Asn Gln Glu Thr Leu Leu Glu Gln Glu Ile Arg Leu Ala
 1460 1465 1470
 Asn Leu Lys Ile Ser Ile Phe Ser Asp Leu Asn Leu Arg Glu Lys Val
 1475 1480 1485
 Ser Val Glu Lys Ala Ala Leu Glu Glu Glu Ile Gln Gly Ile Gln Glu
 1490 1495 1500

Gln Tyr Ala Glu Met Gln Gly Ile Glu Asp Leu Glu Leu Lys Gln Lys
 1505 1510 1515 1520
 Phe Glu Asp Leu Gln Lys Lys Leu Glu Ala Leu Glu Glu Arg Leu Leu
 1525 1530 1535
 Gln Ile Gly Arg Arg Ile Asp Ser Ser Val Asp Lys Gln Lys Glu Leu
 1540 1545 1550
 Leu Gly Leu Leu Gly Arg Glu Glu Ala Ala
 1555 1560

<210> 153
 <211> 518
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0151

<400> 153
 Cys Tyr Glu Asn Leu Phe His Tyr Pro Arg Ala Ser Met Ala Asp Ile
 1 5 10 15
 Leu Val Ile Gly Ala Asn Pro Thr Gly Leu Ile Leu Ala Asn Met Leu
 20 25 30
 Ile Gln His Gly Ile Ser Val Lys Val Ile Asp His Arg Ala Ser Pro
 35 40 45
 Glu Asp Pro Ser Phe Leu Asp Cys Arg Lys Leu Pro Val Ile Leu Ser
 50 55 60
 Cys Ser Ser Leu Glu Leu His Asn Ser Glu Met Leu Gly Asp Phe
 65 70 75 80
 Ile Gln Ala Asn His Lys Ile Phe Gly Ala Arg Tyr His Trp Lys Lys
 85 90 95
 Arg Thr Leu Leu Phe Lys Phe Ser Gln Ala Thr Asp Ser Pro Val Pro
 100 105 110
 Phe Ser Leu Ser Thr Thr Tyr Gln Ser Leu Glu Gln His Leu Ile Asp
 115 120 125
 Glu Phe Leu Lys Arg Gly Gly Val Ile Asp Trp Ser Thr Arg Pro Val
 130 135 140
 Thr Leu Val Asp Asn Ser Ile Phe Ile Glu Ser Thr Lys Val Ser Gln
 145 150 155 160
 Asn Phe Glu Asn Arg Glu Ile Tyr Asn Pro Lys Trp Ile Ile Ala Cys
 165 170 175
 Glu Ala Asp Asn Asn Leu Asp Ile Arg Asp Leu Val Lys Ser Gln Leu
 180 185 190
 Arg Ala Arg Arg Ile Asn Arg Glu Val Ile Phe Ile Asn Cys Asp Glu
 195 200 205
 Gly Glu Pro Phe Glu Glu Asp His Ile His Leu Leu Pro Ile Thr Lys
 210 215 220
 Asn Phe Leu Asn Phe Val Phe Tyr Asn Pro Gln Glu Lys Thr Lys Gln
 225 230 235 240
 Leu Cys Leu Pro Gln Gly Thr His Ser Ile Ser Pro Lys Leu Lys Gln
 245 250 255
 Lys Leu Leu Tyr Thr Tyr Asn Leu Val Ile Ser Asp Glu Asn Phe His
 260 265 270
 Ile Lys Thr Ser His His Ala Phe Pro Pro Glu His Gly Asn Val Leu
 275 280 285
 Phe Leu Gly Ser Leu Ser Asn Thr Leu Leu Leu Ser Tyr Leu Asn Gly
 290 295 300
 Ile Asn Thr Asn Ile His Ala Ala Phe Asn Leu Ala Trp Lys Leu Leu
 305 310 315 320
 Pro Val Leu Lys Lys Ala Ala Leu Lys His Leu Val Ile Thr Lys Glu
 325 330 335

Gln Glu Asp Gly Asn Ile Leu Pro Tyr Ile Ser Pro Thr Thr Glu Lys
 340 345 350
 Arg Ala Lys Lys Leu Pro Phe Ser Arg Phe Tyr Thr Pro Ala Leu Met
 355 360 365
 Tyr Tyr Phe Leu Lys Gly Cys Arg Lys Phe Asn Thr Thr Gly Glu Glu
 370 375 380
 Tyr Tyr Tyr Pro Pro His Gln Ala Leu Lys Tyr Arg Ser Ser Asp Ile
 385 390 395 400
 Ile Lys Met Ser Pro Gln Asp Lys Glu Ile His Gly Pro Gly Pro Gly
 405 410 415
 Met Arg Ala Ile Asp Ala Arg Leu Glu Asn Gly Ser Phe Leu Leu Asp
 420 425 430
 Pro Leu Lys Ser Ser Lys His Leu Leu Ile Phe Phe Lys Asp Ile Pro
 435 440 445
 Asp Leu Lys Glu Ala Leu Gln Glu Glu Tyr Gly Glu Trp Ile Glu Ile
 450 455 460
 Cys Asn Val Lys Glu Pro Arg Ile Leu Asn Leu Tyr His Ala Asn Pro
 465 470 475 480
 Asn Ser Leu Phe Ile Ile Arg Pro Asp Arg Tyr Ile Gly Tyr Arg Thr
 485 490 495
 His Thr Phe Lys Leu His Glu Leu Ile Ser Tyr Leu Leu Arg Ile Phe
 500 505 510
 Ala Ser Glu Lys Thr Ser
 515

<210> 154
 <211> 319
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0152

<400> 154
 Leu Ile Lys Met Arg Lys Val Ala Phe Leu Val Ser Cys Leu Phe Ser
 1 5 10 15
 Val Ala Ile Gly Ala Ser Ala Ala Pro Val Arg Val Pro Gly Phe Pro
 20 25 30
 Gln Ile Pro Glu Asp Leu Val Gln Ile Lys Thr Glu Val Cys Pro Lys
 35 40 45
 Gln Glu Val Cys Leu Ala Val Thr Ile Lys Cys Asp Asp His Asn Leu
 50 55 60
 Ile Gly Val Leu His Leu Pro Asn Thr Pro Thr Pro Glu Gly Gly Phe
 65 70 75 80
 Pro Thr Val Val Leu Phe His Gly Phe Arg Gly Thr Lys Phe Gly Gly
 85 90 95
 Leu Thr Gly Ala Tyr Arg Lys Leu Gly Arg Lys Phe Ala Ala Val Gly
 100 105 110
 Ile Ala Thr Leu Arg Val Asp Met Ala Gly Cys Gly Asp Ser Glu Gly
 115 120 125
 Val Ala Glu Glu Val Pro Ile Glu Thr Tyr Leu Arg Asp Ala Gln Thr
 130 135 140
 Ile Leu Glu Thr Val Gln Glu His Pro Asp Leu Asn Ala Tyr Arg Leu
 145 150 155 160
 Gly Ile Ser Gly Phe Ser Leu Gly Cys His Ile Ala Phe Glu Leu Ala
 165 170 175
 Lys Ile Tyr Asn Pro Arg Asp Leu Asn Ile Lys Ala Leu Ser Val Trp
 180 185 190
 Ala Pro Ile Ala Asp Gly Gly Ile Leu Leu Lys Glu Leu Tyr Glu Asn
 195 200 205

Phe Ser Lys His Gly Glu Gly Asp Ile Ile Ser Val Gly Lys Asp Phe
 210 215 220
 Gly Phe Gly Pro Pro Pro Ile Ile Val Cys Ser Gly Asp Val Asp Leu
 225 230 235 240
 Leu Ile Arg Ile Gln Asp His Val Thr Ala Asn Ser Leu Pro Thr Lys
 245 250 255
 Pro Tyr Ile Leu His Gln Gln Gly Ile Asp Asp Thr Leu Val Ser Arg
 260 265 270
 Thr Gln Gln Thr Leu Phe Lys Asn Thr Ala Pro Gly Arg Met Thr Phe
 275 280 285
 Ile Ser Tyr Pro Asn Thr Gly His Asn Leu Ala Thr Ala Pro Asp Leu
 290 295 300
 Asp Met Ile Leu Asp Gln Ile Val Ser His Phe Gln Arg Thr Leu
 305 310 315

<210> 155
 <211> 821
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0153

<400> 155

Asn Met Arg Tyr Asp Pro Asn Leu Ile Glu Lys Lys Trp Gln Gln Phe
 1 5 10 15
 Trp Lys Glu His Arg Ser Phe Gln Ala Asn Glu Asp Glu Asp Lys Val
 20 25 30
 Lys Tyr Tyr Val Leu Asp Met Phe Pro Tyr Pro Ser Gly Ala Gly Leu
 35 40 45
 His Val Gly His Leu Ile Gly Tyr Thr Ala Thr Asp Ile Val Ala Arg
 50 55 60
 Tyr Lys Arg Ala Arg Gly Phe Ser Val Leu His Pro Met Gly Trp Asp
 65 70 75 80
 Ser Phe Gly Leu Pro Ala Glu Gln Tyr Ala Ile Arg Thr Gly Thr His
 85 90 95
 Pro Lys Val Thr Thr Gln Lys Asn Ile Ala Asn Phe Lys Lys Gln Leu
 100 105 110
 Ser Ala Met Gly Phe Ser Tyr Asp Glu Gly Arg Glu Phe Ala Thr Ser
 115 120 125
 Asp Pro Asp Tyr Tyr His Trp Thr Gln Lys Leu Phe Leu Phe Leu Tyr
 130 135 140
 Asp Gln Gly Leu Ala Tyr Met Ala Asp Met Ala Val Asn Tyr Cys Pro
 145 150 155 160
 Glu Leu Gly Thr Val Leu Ser Asn Glu Glu Val Glu Asn Gly Phe Ser
 165 170 175
 Ile Glu Gly Gly Tyr Pro Val Glu Arg Lys Met Leu Arg Gln Trp Ile
 180 185 190
 Leu Lys Ile Thr Ala Tyr Ala Asp Lys Leu Leu Glu Gly Leu Asp Ala
 195 200 205
 Leu Asp Trp Pro Glu Asn Val Lys Gln Leu Gln Lys Asn Trp Ile Gly
 210 215 220
 Lys Ser Glu Gly Ala Leu Val Thr Phe His Leu Thr Gln Glu Gly Ser
 225 230 235 240
 Leu Glu Ala Phe Thr Thr Arg Leu Asp Thr Leu Leu Gly Val Ser Phe
 245 250 255
 Leu Val Ile Ala Pro Glu His Pro Asp Leu Asp Ser Ile Val Ser Glu
 260 265 270
 Glu Gln Arg Asp Glu Val Thr Ala Tyr Val Gln Glu Ser Leu Arg Lys
 275 280 285

Ser	Glu	Arg	Asp	Arg	Ile	Ser	Ser	Val	Lys	Thr	Lys	Thr	Gly	Val	Phe
290						295					300				
Thr	Gly	Asn	Tyr	Ala	Lys	His	Pro	Ile	Thr	Gly	Asn	Leu	Leu	Pro	Val
305					310					315					320
Trp	Ile	Ser	Asp	Tyr	Val	Val	Leu	Gly	Tyr	Gly	Thr	Gly	Val	Val	Met
				325					330					335	
Gly	Val	Pro	Ala	His	Asp	Glu	Arg	Asp	Arg	Glu	Phe	Ala	Glu	Met	Phe
			340					345					350		
Ser	Leu	Pro	Ile	His	Glu	Val	Ile	Asp	Asp	Asn	Gly	Val	Cys	Ile	His
	355						360					365			
Ser	Asn	Tyr	Asn	Asp	Phe	Cys	Leu	Asn	Gly	Leu	Ser	Gly	Gln	Glu	Ala
	370					375					380				
Lys	Asp	Tyr	Val	Ile	Asn	Tyr	Leu	Glu	Met	Arg	Ser	Leu	Gly	Arg	Ala
385					390					395					400
Lys	Thr	Met	Tyr	Arg	Leu	Arg	Asp	Trp	Leu	Phe	Ser	Arg	Gln	Arg	Tyr
				405					410					415	
Trp	Gly	Glu	Pro	Ile	Pro	Ile	Ile	His	Phe	Glu	Asp	Gly	Thr	His	Arg
			420					425					430		
Pro	Leu	Glu	Asp	Asp	Glu	Leu	Pro	Leu	Leu	Pro	Pro	Asn	Ile	Asp	Asp
	435						440					445			
Tyr	Arg	Pro	Glu	Gly	Phe	Gly	Gln	Gly	Pro	Leu	Ala	Lys	Ala	Gln	Asp
	450					455					460				
Trp	Val	His	Ile	Tyr	Asp	Glu	Lys	Thr	Gly	Arg	Pro	Gly	Cys	Arg	Glu
465					470					475					480
Thr	Tyr	Thr	Met	Pro	Gln	Trp	Ala	Gly	Ser	Cys	Trp	Tyr	Tyr	Leu	Arg
				485					490					495	
Phe	Cys	Asp	Ala	His	Asn	Ser	Gln	Leu	Pro	Trp	Ser	Lys	Glu	Lys	Glu
			500					505					510		
Ser	Tyr	Trp	Met	Pro	Val	Asp	Leu	Tyr	Ile	Gly	Gly	Ala	Glu	His	Ala
	515						520					525			
Val	Leu	His	Leu	Leu	Tyr	Ser	Arg	Phe	Trp	His	Arg	Val	Phe	Tyr	Asp
	530					535					540				
Ala	Gly	Leu	Val	Ser	Thr	Pro	Glu	Pro	Phe	Lys	Lys	Leu	Ile	Asn	Gln
545					550					555					560
Gly	Leu	Val	Leu	Ala	Ser	Ser	Tyr	Arg	Ile	Pro	Gly	Lys	Gly	Tyr	Val
				565					570					575	
Ser	Ile	Glu	Asp	Val	Arg	Glu	Glu	Asn	Gly	Thr	Trp	Ile	Ser	Thr	Cys
			580					585					590		
Gly	Glu	Ile	Val	Glu	Val	Arg	Gln	Glu	Lys	Met	Ser	Lys	Ser	Lys	Leu
	595						600					605			
Asn	Gly	Val	Asp	Pro	Gln	Val	Leu	Ile	Glu	Glu	Tyr	Gly	Ala	Asp	Ala
	610					615						620			
Leu	Arg	Met	Tyr	Ala	Met	Phe	Ser	Gly	Pro	Leu	Asp	Lys	Asn	Lys	Thr
625					630					635					640
Trp	Ser	Asn	Glu	Gly	Val	Gly	Gly	Cys	Arg	Arg	Phe	Leu	Asn	Arg	Phe
				645					650					655	
Tyr	Asp	Leu	Val	Thr	Ser	Ser	Glu	Val	Gln	Asp	Ile	Glu	Asp	Arg	Asp
			660				665						670		
Gly	Leu	Val	Leu	Ala	His	Lys	Leu	Val	Phe	Arg	Ile	Thr	Glu	His	Ile
	675						680					685			
Glu	Lys	Met	Ser	Leu	Asn	Thr	Ile	Pro	Ser	Ser	Phe	Met	Glu	Phe	Leu
	690					695					700				
Asn	Asp	Phe	Ser	Lys	Leu	Pro	Val	Tyr	Ser	Lys	Arg	Ala	Leu	Ser	Met
705					710					715					720
Ala	Val	Arg	Val	Leu	Glu	Pro	Ile	Ala	Pro	His	Ile	Ser	Glu	Glu	Leu
				725					730					735	
Trp	Val	Ile	Leu	Gly	Asn	Pro	Pro	Gly	Ile	Asp	Gln	Ala	Ala	Trp	Pro
			740					745					750		
Gln	Ile	Asp	Glu	Ser	Tyr	Leu	Val	Ala	Gln	Thr	Val	Thr	Phe	Val	Val
	755						760					765			

Gln Val Asn Gly Lys Leu Arg Gly Arg Leu Glu Val Ala Lys Glu Ala
770 775 780
Pro Lys Glu Glu Val Leu Ser Leu Ser Arg Ser Val Val Ala Lys Tyr
785 790 795 800
Leu Glu Asn Ala Gln Ile Arg Lys Glu Ile Tyr Val Pro Asn Lys Leu
805 810 815
Val Asn Phe Val Leu
820

<210> 156
<211> 443
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0154

<400> 156
Thr Ser Glu Phe Cys Pro Met Met Leu Arg Gly Val His Arg Ile Phe
1 5 10 15
Lys Cys Phe Tyr Asp Val Val Leu Val Cys Ala Phe Val Ile Ala Leu
20 25 30
Pro Lys Leu Leu Tyr Lys Met Leu Val Tyr Gly Lys Tyr Lys Lys Ser
35 40 45
Leu Ala Val Arg Phe Gly Leu Lys Lys Pro His Val Pro Gly Glu Gly
50 55 60
Pro Leu Val Trp Phe His Gly Ala Ser Val Gly Glu Val Arg Leu Leu
65 70 75 80
Leu Pro Val Leu Glu Lys Phe Cys Glu Glu Phe Pro Gly Trp Arg Cys
85 90 95
Leu Val Thr Ser Cys Thr Glu Leu Gly Val Gln Val Ala Ser Gln Val
100 105 110
Phe Ile Pro Met Gly Ala Thr Val Ser Ile Leu Pro Leu Asp Phe Ser
115 120 125
Ile Ile Ile Lys Ser Val Val Ala Lys Leu Arg Pro Ser Leu Val Val
130 135 140
Phe Ser Glu Gly Asp Cys Trp Leu Asn Phe Ile Glu Glu Ala Lys Arg
145 150 155 160
Ile Gly Ala Thr Thr Leu Val Ile Asn Gly Arg Ile Ser Ile Asp Ser
165 170 175
Ser Lys Arg Phe Lys Phe Leu Lys Arg Leu Gly Lys Asn Tyr Phe Ser
180 185 190
Pro Val Asp Gly Phe Leu Leu Gln Asp Glu Val Gln Lys Gln Arg Phe
195 200 205
Leu Ser Leu Gly Ile Pro Glu His Lys Leu Gln Val Thr Gly Asn Ile
210 215 220
Lys Thr Tyr Val Ala Ala Gln Thr Ala Leu His Leu Glu Arg Glu Thr
225 230 235 240
Trp Arg Asp Arg Leu Arg Leu Pro Thr Asp Ser Lys Leu Val Ile Leu
245 250 255
Gly Ser Met His Arg Ser Asp Ala Gly Lys Trp Leu Pro Val Val Gln
260 265 270
Lys Leu Ile Lys Glu Gly Val Ser Val Leu Trp Val Pro Arg His Val
275 280 285
Glu Lys Thr Lys Asp Val Glu Glu Ser Leu His Arg Leu His Ile Pro
290 295 300
Tyr Gly Leu Trp Ser Arg Gly Ala Asn Phe Ser Tyr Val Pro Val Val
305 310 315 320
Val Val Asp Glu Ile Gly Leu Leu Lys Gln Leu Tyr Val Ala Gly Asp
325 330 335

Leu Ala Phe Val Gly Gly Thr Phe Asp Pro Lys Ile Gly Gly His Asn
 340 345 350
 Leu Leu Glu Pro Leu Gln Cys Glu Val Pro Leu Ile Phe Gly Pro His
 355 360 365
 Ile Thr Ser Gln Ser Glu Leu Ala Gln Arg Leu Leu Leu Ser Gly Ala
 370 375 380
 Gly Leu Cys Leu Asp Glu Ile Glu Pro Ile Ile Asp Thr Val Ser Phe
 385 390 395 400
 Leu Leu Asn Asn Gln Glu Val Arg Glu Ala Tyr Val Gln Lys Gly Lys
 405 410 415
 Val Phe Val Lys Ala Glu Thr Ala Ser Phe Asp Arg Thr Trp Arg Ala
 420 425 430
 Leu Lys Ser Tyr Ile Pro Leu Tyr Lys Asn Ser
 435 440

<210> 157
 <211> 70
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0155

<400> 157
 Asn Ser Leu Ser Phe Gly Val Pro Phe Leu Glu Lys Leu Lys Ile Ser
 1 5 10 15
 Leu Ile Pro Ile Glu Glu Met Arg His Glu Leu Phe Met Lys Thr His
 20 25 30
 Asn Ser Ser Ser Asn Gly Phe Ser Asn Gln Glu Lys Gly Ile Arg Thr
 35 40 45
 Tyr Phe Lys Ser Asp Leu Leu Gly Tyr Glu Asp Leu Tyr Phe Leu Arg
 50 55 60
 Glu Asn Ile Asn Pro Asn
 65 70

<210> 158
 <211> 126
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0156

<400> 158
 Leu Gly Lys Gln Lys Leu Leu Ala Arg His Met Met His Asn Ile Val
 1 5 10 15
 Val Leu Ser Glu Glu Pro Gly Arg Ser Ala Phe Leu Gly Arg Thr Ala
 20 25 30
 Phe Phe Pro Asn Lys Tyr Pro Ile Ala Gln Gly Gly Val Gly Ile Pro
 35 40 45
 Ser Thr Ile Gly Asn Leu Phe Thr Ile Trp Tyr Cys Phe Tyr Phe Tyr
 50 55 60
 Arg Ala Ala Thr Pro Gln Ser Asp His Pro Asp Gly Cys Gly Phe Ile
 65 70 75 80
 Leu Leu Glu Arg Leu Lys Glu Leu Gly Ala Gly Phe Phe Tyr Cys Asp
 85 90 95
 Leu Arg Glu Ser Asn Thr Thr Gly Phe Thr Leu Phe Phe Glu Gly Ser
 100 105 110
 Asn Lys Gly Val Leu Lys Asn His Leu Phe Ile Arg Asp Glu
 115 120 125

<210> 159
 <211> 152
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0157

<400> 159
 Phe Ser Phe Val Thr Tyr Lys Glu Ala Leu Met Asn Ile Tyr Gln Phe
 1 5 10 15
 Ser Pro Gly Ala Ser Pro Asn Trp Gln Ala Ser Leu Met Ala Gln Leu
 20 25 30
 Asn Ser Tyr Phe Cys Leu Gly Gly Glu Thr Val Thr Arg Ile Ile Ser
 35 40 45
 Leu Arg Pro Ser Gly Leu Ile Leu Ala Lys Lys Glu Lys Ala Val Val
 50 55 60
 Ser Thr Ala Glu Lys Ile Leu Lys Ile Leu Ser Phe Ile Leu Phe Pro
 65 70 75 80
 Leu Val Leu Ile Ala Leu Ala Ile Arg Tyr Leu Leu Tyr Asn Lys Phe
 85 90 95
 Asn Lys Asp Leu Asp Arg Ala Val Phe Phe Ile Pro Thr Glu Ile Thr
 100 105 110
 Lys Ala Glu Glu Leu Ile Ile Ala Lys Asn Pro Ala Leu Val Lys Glu
 115 120 125
 Ala Ala Leu Thr Val Ser Pro Leu Phe Tyr Ser Leu Pro Lys Lys Tyr
 130 135 140
 Gln Leu Met Lys Val Glu Thr Pro
 145 150

<210> 160
 <211> 190
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0158

<400> 160
 Pro Pro Lys Ile Thr Leu Ser Ile Asn Ile Asp Leu Leu Leu Glu Asp
 1 5 10 15
 Leu Asp Thr Asp Ser Ile Pro Trp Pro Lys Leu Tyr Leu Ser Glu Asp
 20 25 30
 Phe Asp Phe Ala Tyr Tyr Pro Glu Ser Lys Ala Ile Ile Asp Thr Val
 35 40 45
 Ala Lys Leu Glu Lys Asn Asn Pro Gly Glu Glu Phe Cys Leu Glu Ser
 50 55 60
 Lys Lys Ile Leu Ala Arg Tyr Leu Leu Glu Gln Leu Phe Lys Leu Glu
 65 70 75 80
 Thr Gly Leu Asn Phe Pro Thr Ser Thr Ile Asp Gly Gly Arg Glu Ser
 85 90 95
 Phe Leu Ile Glu Phe Ser His Glu Thr Lys Lys Pro Thr Val Trp Ala
 100 105 110
 Phe Ile Tyr Phe Tyr Tyr Tyr His Ser Asn Gly Pro Lys Leu Glu Lys
 115 120 125
 Asp Phe Lys Gln Ala Gly Cys Glu Val His Asn Arg Leu Leu Asn Leu
 130 135 140
 Gly Leu Lys Tyr Arg Pro Gln Ala Gly Ala Gln Asn Asp Gly Arg Asn
 145 150 155 160
 Gly Gly Pro Tyr Gly Pro Ile Gly Phe Leu Ile Val Trp Glu Glu Asn
 165 170 175

Tyr Gly Ser Val Leu Lys Asp His Gly Phe Ile Lys Asp Asn
180 185 190

<210> 161
<211> 115
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0159

<400> 161
Cys Cys Phe Gly Gly Glu Thr Ala Thr Arg Ile Phe Ser Met Thr Pro
1 5 10 15
Ser Gly Phe Ser Leu Ala Thr Glu Glu Lys Val Gln Val Ser Thr Ala
20 25 30
Glu Lys Val Ile Lys Ile Leu Ala Leu Ile Phe Phe Pro Ile Ile Leu
35 40 45
Ile Ala Leu Ala Ile Arg Tyr Phe Leu His Arg Lys Phe Asp Arg Lys
50 55 60
Cys Phe Val Ile Pro Gln Asp Thr Pro Lys Glu Leu Glu Leu Ile Leu
65 70 75 80
Ala Ala Asn Pro Gln Leu Val Glu Lys Ala Ala Arg Glu Val His Pro
85 90 95
Gly Phe Phe Ala Leu Pro Thr Lys Tyr Gln Ser Met Tyr Ile Gln Thr
100 105 110
Ser Lys Gly
115

<210> 162
<211> 556
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0160

<400> 162
Thr Val Glu Leu Leu Ser Leu Asn Lys Ser Tyr Phe Glu Ile Gln Arg
1 5 10 15
Leu Arg Tyr Arg Pro Glu Ile Leu Thr Leu Leu Glu Thr Ile Arg Ser
20 25 30
Lys His Ile Gln Glu Thr Ser Ser Pro Pro Ser Pro Pro Glu Leu
35 40 45
Gln Lys His Ile Pro Asn Leu Cys Arg Ile Pro Glu Val Ser Ile Tyr
50 55 60
Thr Glu Gln Glu Thr Ser Ser Lys Pro Leu Lys Ile Gly Val Leu Leu
65 70 75 80
Ser Gly Gly Gln Ala Pro Gly Gly His Asn Val Val Ile Gly Leu Phe
85 90 95
Asp Ala Leu Arg Val Phe Asn Pro Lys Thr Arg Leu Phe Gly Phe Ile
100 105 110
Lys Gly Pro Leu Gly Leu Thr Arg Gly Leu Tyr Lys Asp Leu Asp Ile
115 120 125
Ser Val Ile Tyr Asp Tyr Tyr Asn Met Gly Gly Phe Asp Met Leu Ser
130 135 140
Ser Ser Arg Glu Lys Ile Lys Thr Glu Glu Gln Lys Lys Asn Ile Leu
145 150 155 160
Asn Thr Val Lys Gln Leu Lys Leu Asp Gly Leu Leu Ile Ile Gly Gly
165 170 175

Asn	Asn	Ser	Asn	Thr	Asp	Thr	Ala	Met	Leu	Ala	Glu	Tyr	Phe	Leu	Ala
			180					185					190		
His	Asn	Cys	Lys	Thr	Ser	Val	Ile	Gly	Val	Pro	Lys	Thr	Ile	Asp	Gly
		195					200					205			
Asp	Leu	Lys	Asn	Cys	Trp	Ile	Glu	Thr	Ser	Leu	Gly	Phe	His	Thr	Ser
	210					215					220				
Cys	Arg	Thr	Tyr	Ser	Glu	Met	Ile	Gly	Asn	Leu	Ala	Lys	Asp	Ala	Leu
225					230					235					240
Ser	Ala	Lys	Lys	Tyr	His	His	Phe	Ile	Arg	Leu	Met	Gly	Gln	Gln	Ala
				245					250					255	
Ser	Tyr	Thr	Thr	Leu	Glu	Cys	Gly	Leu	Gln	Thr	Leu	Pro	Asn	Ile	Ala
			260					265					270		
Leu	Ile	Ser	Glu	Leu	Ile	Ala	Thr	Arg	Lys	Ile	Ser	Leu	Lys	Gln	Leu
		275					280					285			
Ser	Glu	Gln	Leu	Ala	Leu	Gly	Leu	Val	Arg	Arg	Tyr	Lys	Ser	Gly	Lys
	290					295					300				
Asn	Tyr	Ser	Thr	Val	Leu	Ile	Pro	Glu	Gly	Leu	Ile	Glu	His	Ile	Phe
305					310					315					320
Asp	Thr	Arg	Lys	Leu	Ile	Asp	Glu	Leu	Asn	Val	Leu	Leu	Ala	Asn	Gly
			325						330					335	
Asp	Ser	Ser	Ile	Glu	Lys	Ile	Leu	Ser	Lys	Leu	Ser	Pro	Glu	Thr	Leu
			340					345					350		
Lys	Thr	Phe	His	Leu	Phe	Pro	Lys	Asp	Ile	Ala	Asn	Gln	Leu	Leu	Leu
		355					360					365			
Ala	Arg	Asp	Ser	His	Gly	Asn	Val	Arg	Val	Ser	Lys	Ile	Ala	Thr	Glu
	370				375						380				
Glu	Leu	Leu	Ala	Val	Met	Val	Lys	Lys	Glu	Ile	Glu	Lys	Ile	Lys	Pro
385					390					395					400
His	Met	Glu	Phe	His	Ser	Val	Ser	His	Phe	Phe	Gly	Tyr	Glu	Ala	Arg
			405						410					415	
Ala	Gly	Phe	Pro	Ser	Asn	Phe	Asp	Cys	Asn	Tyr	Gly	Ile	Ala	Leu	Gly
			420					425					430		
Ile	Ile	Ser	Ala	Leu	Phe	Leu	Val	Arg	Gln	Lys	Thr	Gly	Tyr	Met	Ile
		435					440					445			
Thr	Ile	Asn	Asn	Leu	Ala	Gln	Ser	Tyr	Thr	Glu	Trp	Gln	Gly	Gly	Ala
	450					455					460				
Thr	Pro	Leu	Tyr	Lys	Met	Met	His	Leu	Glu	Asn	Arg	Cys	Gly	Thr	Glu
465					470					475					480
Thr	Pro	Val	Ile	Lys	Thr	Asp	Ser	Val	Asp	Pro	Lys	Ser	Pro	Ala	Val
				485					490					495	
Gln	His	Leu	Leu	Gln	Gln	Ser	Asp	Ser	Cys	Leu	Val	Glu	Asp	Leu	Tyr
			500					505					510		
Arg	Phe	Pro	Gly	Pro	Leu	Gln	Tyr	Phe	Gly	Lys	Glu	Glu	Leu	Ile	Asp
		515					520					525			
Gln	Arg	Pro	Leu	Thr	Leu	Leu	Trp	Glu	Asn	Gln	Thr	His	Ser	Pro	Phe
	530					535					540				
Gln	Ala	Leu	Tyr	Ser	Thr	Ser	Gly	Lys	Arg	Ser	Leu				
545					550					555					

<210> 163

<211> 287

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0161

<400> 163

His	Arg	Ser	Ser	Thr	Ser	Arg	Lys	Gln	Glu	Pro	Leu	Leu	Ile	Thr	Gly
1					5				10					15	

Val	Val	Leu	Glu	Lys	His	Glu	Gln	Arg	Thr	Met	Phe	Ser	Leu	Thr	Leu
		20						25					30		
Leu	Asn	Asn	Phe	Thr	Thr	Phe	Gly	Leu	Leu	His	Thr	Pro	Leu	His	Tyr
	35						40				45				
Asn	Pro	Pro	Tyr	Pro	Ile	Val	Ile	Leu	Leu	His	Gly	Leu	Ala	Ser	Asp
	50					55					60				
Lys	Thr	Gly	Ser	Lys	Arg	Ser	His	Val	Arg	Leu	Ala	Gln	Glu	Leu	Thr
65					70					75					80
Arg	Leu	Gly	Ile	Ala	Ala	Leu	Arg	Val	Asp	Leu	Leu	Gly	His	Gly	Asp
				85					90					95	
Cys	Glu	Gly	Glu	Leu	Met	Asp	Phe	Ser	Leu	Glu	Asn	Tyr	Lys	Gln	Asn
			100						105				110		
Ile	Arg	Glu	Ile	Ile	Glu	Tyr	Thr	His	Ser	Leu	Leu	His	Ile	Asp	Gln
	115						120						125		
Glu	Arg	Leu	Ala	Ile	Phe	Gly	Ser	Ser	Leu	Gly	Gly	Thr	Leu	Ala	Leu
	130					135						140			
Gln	Thr	Leu	Pro	Phe	Phe	Asn	Lys	Ile	Lys	Ala	Leu	Ala	Val	Trp	Ala
145					150					155					160
Pro	Thr	Ile	Ser	Gly	Glu	Leu	Met	Ala	Ala	Glu	Ala	Gln	Lys	Asn	Ala
				165						170				175	
Pro	Glu	Val	Ile	Thr	Met	Ser	Gln	Lys	Gly	Ala	Ile	Thr	Tyr	Ala	Gly
			180					185					190		
Met	Thr	Leu	Asn	Pro	Asp	Phe	Tyr	Thr	Gln	Phe	Leu	Lys	Ile	Asp	Ile
	195						200						205		
Val	Lys	Glu	Leu	Met	Pro	Ser	Ala	Arg	Asn	Leu	Pro	Pro	Ile	Leu	Tyr
	210					215					220				
Met	Gln	Gly	Glu	Gln	Asp	Leu	Leu	Val	Ser	Ile	Asn	His	Arg	Thr	Leu
225					230					235					240
Phe	Thr	Glu	Ala	Phe	Ala	Asn	Gln	Asp	Lys	Pro	Ile	Thr	Ile	Leu	Thr
				245					250					255	
Tyr	Pro	Asp	Val	Asp	His	Ala	Phe	Pro	Phe	Ala	Glu	Ser	Ser	Ala	Leu
			260					265					270		
Ser	Asp	Leu	Thr	Gln	Trp	Leu	Lys	Arg	Glu	Leu	Thr	Ser	Gly	Glu	
		275					280						285		

<210> 164
 <211> 356
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0162

Phe	Val	Tyr	Thr	Leu	Tyr	Asn	Ile	Gln	Ser	Pro	Phe	Arg	Ile	Met	Lys
1				5					10				15		
Leu	Tyr	Ser	Ile	Ser	Ser	Asp	Val	Asp	Thr	Pro	Trp	Ile	Phe	Gln	Leu
			20					25				30			
Met	Ser	Lys	Val	Asp	Ser	Tyr	Leu	Phe	Leu	Gly	Gly	Asn	Arg	Ile	Lys
		35					40					45			
Val	Val	Ser	Ile	Val	Met	Gln	Glu	Pro	Asn	Leu	Ile	Ile	Gly	Lys	Val
	50					55					60				
Glu	Asn	Val	Arg	Ile	Ser	Thr	Ile	Val	Lys	Ile	Leu	Lys	Ile	Leu	Ser
65					70					75					80
Phe	Leu	Ile	Phe	Pro	Leu	Ile	Leu	Ile	Ala	Leu	Ala	Leu	His	Tyr	Phe
				85					90					95	
Leu	His	Ala	Lys	Tyr	Ala	Asn	His	Leu	Leu	Val	Ser	Lys	Ile	Leu	Glu
			100					105					110		
Arg	Ala	Pro	Gln	Tyr	Val	Pro	Ile	Pro	Gly	Arg	Ser	Gly	Asp	Thr	Ala
			115				120						125		

Ser His Tyr Lys Leu Thr Thr Leu Val Pro Val Ser Gln Lys Asn Leu
 130 135 140
 Gln Ala Met Gly Ser Asn Pro Leu Glu Val Glu Ala Ala Leu Arg Thr
 145 150 155 160
 Thr Lys Pro Ser Phe Phe Cys Val Pro Ala Lys Tyr Arg Gln Ile Ile
 165 170 175
 Ile Ser Ser His Gly Ile Arg Phe Ser Leu Asp Leu Glu Gln Leu Ala
 180 185 190
 Asp Asp Ile Asn Leu Asp Ser Val Ser Trp Pro Thr Glu Tyr Leu Asn
 195 200 205
 Ser Thr Met Asp Phe Cys Ser Lys Ala Asp Lys Arg Val Ile Gln Asn
 210 215 220
 Val Gln Asn Leu Arg Thr Gly Thr Tyr Ile Asn Ser Val Gly Lys Arg
 225 230 235 240
 Ser Leu Leu Lys Phe Met Leu Gln His Leu Phe Ile Asp Gly Ile Thr
 245 250 255
 Gln Glu Asn Pro Glu Ala Leu Pro Asn Asn Thr Ser Gly Arg Leu Thr
 260 265 270
 Leu Phe Pro Ser Val Arg Tyr Ile Tyr Ser His Phe Thr Pro Gln Asn
 275 280 285
 Pro Thr Ile Trp Pro Gln Val Phe Phe Arg Gln Gly Pro Leu Asp Glu
 290 295 300
 Asp Arg Gly Gly Gly Phe Glu Ile Leu Glu Gln Leu Gln Glu Leu Gly
 305 310 315 320
 Val Arg Phe Pro Ile Cys Pro Ser Gln Gly Pro Asp Asn Pro Asn Phe
 325 330 335
 Gln Gly Phe Gln Gly Ile Arg Ile Tyr Trp Glu Asp Ser Tyr Gln Pro
 340 345 350
 Asn Lys Glu Val
 355

<210> 165
 <211> 189
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0163

<400> 165
 Phe Glu Lys Ala Ile Val Tyr Cys Ile Lys Cys Lys Gln Ile Ile Lys
 1 5 10 15
 Cys Ile Ser Ile Ile His Thr Pro Thr Pro Ala Thr Pro Leu Cys Thr
 20 25 30
 Glu Gly Glu Ile Phe Pro Gly Pro Val Asp Ser Ala Ile Gln Asn Asp
 35 40 45
 Leu Glu Arg Leu Leu Thr Val Lys Lys Arg Pro Asp Ile Ile Arg Glu
 50 55 60
 Tyr Leu Met Arg Ala Gly Gly Ser Leu Val Thr Tyr Pro Lys Glu
 65 70 75 80
 Gly Gln Arg Leu Arg Ser Pro Glu Gln Leu Arg Val Leu Asp Asp Leu
 85 90 95
 Val Gln Ser Tyr Pro Asn His Leu His Ala Ile Glu Leu Asp Cys Gly
 100 105 110
 Ala Ile Pro Gln Asp Leu Ile Gly Ala Thr Tyr Ile Ile Thr Phe Ala
 115 120 125
 Asp Phe Ser Thr Tyr Ile Leu Ser Leu Arg Ser Tyr Gln Ala Asn Ser
 130 135 140
 Pro Ser Asp Asp Thr Trp Gly Ile Trp Phe Gly Ser Ile Asp Asp Pro
 145 150 155 160

Val Gln Ala Val Ile Ser Phe Leu Lys Asp His Gly Phe Ala Leu Pro
165 170 175
Ser Thr Leu Ala Gln Asp Pro Leu Leu Cys Thr Asn Lys
180 185

<210> 166
<211> 185
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0164

<400> 166
Leu Cys Phe Lys Cys Ile Tyr Ile Lys Ile Ile Phe Ser Phe Leu Lys
1 5 10 15
Gln Leu Met Thr Arg Ser Thr Ile Glu Ser Ser Asp Ser Leu Cys Ser
20 25 30
Arg Ser Phe Ser Gln Lys Leu Ser Val Gln Thr Leu Lys Asn Leu Cys
35 40 45
Glu Ser Arg Leu Met Lys Ile Thr Ser Leu Val Ile Ala Phe Leu Thr
50 55 60
Leu Ile Val Gly Gly Ala Leu Ile Ala Leu Ala Gly Gly Gly Val Leu
65 70 75 80
Ser Phe Pro Leu Gly Leu Ile Leu Gly Ser Val Leu Val Leu Phe Ser
85 90 95
Ser Ile Tyr Leu Val Ser Cys Cys Lys Phe Phe Thr Leu Lys Glu Met
100 105 110
Thr Met Thr Cys Ser Val Lys Ser Lys Ile Asn Ile Trp Phe Glu Lys
115 120 125
Gln Arg Asn Lys Asp Ile Glu Lys Ala Leu Glu Asn Pro Asp Leu Phe
130 135 140
Gly Glu Asn Lys Arg Asn Val Gly Asn Arg Ser Ala Arg Asn Gln Leu
145 150 155 160
Glu Met Ile Leu His Glu Thr Asp Gly Ile Ile Leu Lys Arg Tyr Met
165 170 175
Lys Gly Ala Lys Met Tyr Phe Tyr Leu
180 185

<210> 167
<211> 200
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0165

<400> 167
Asn Val Leu Leu Phe Met Asn Trp Val Pro Lys Thr Ile Asp His Val
1 5 10 15
Asp Pro Glu Ser Glu Ile Asp Ile Arg Lys Val Val Ser Cys Tyr Lys
20 25 30
Leu Ile Lys Glu Cys Gln Pro Glu Phe Arg Ser Leu Ile Ser Glu Leu
35 40 45
Leu Gly Val Ile Arg Cys Gly Leu Arg Leu Leu Lys Arg Ser Lys Tyr
50 55 60
Gln Glu Gln Ala Arg Thr Val Ser Asp Glu Asp Ala Pro Leu Phe Cys
65 70 75 80
Leu Thr Arg Ser Tyr Tyr Gln Asp Gly Tyr Leu Thr Pro Leu Arg Ala
85 90 95

Gly Pro Arg Asp Leu Ile Asn His Tyr Ile His Leu Arg Arg Arg Glu
 100 105 110
 Asn Pro Lys His Phe Phe Ser Pro Lys His Pro Cys Tyr Tyr Ala Arg
 115 120 125
 Leu Ala Phe Asn Glu Ser Val Cys Val Tyr Arg Glu Leu Phe Asp Ile
 130 135 140
 Glu Arg Leu Thr Lys Met Tyr Val Glu Gly Asp Tyr Ser Lys Glu Gln
 145 150 155 160
 Glu Lys Asn Leu Gln Ala Ile Leu Ser Phe Val Lys Thr Leu Asp Glu
 165 170 175
 Gly Lys Asp Phe Leu Ile Glu His Lys Asp Thr Asp Leu Ile Gly Arg
 180 185 190
 Gly Phe Thr Asp Val Phe Cys Thr
 195 200

<210> 168
 <211> 123
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0166

<400> 168
 Asn Cys Leu Lys Gln Tyr Asn Lys Ser Asp Ser Ile Met Ser Glu Ser
 1 5 10 15
 Ile Asn Arg Ser Ile His Leu Glu Ala Ser Thr Pro Phe Phe Ile Lys
 20 25 30
 Leu Thr Asn Leu Cys Glu Ser Arg Leu Val Lys Ile Thr Ser Leu Val
 35 40 45
 Ile Ser Leu Leu Ala Leu Val Gly Ala Gly Val Thr Leu Val Val Leu
 50 55 60
 Phe Val Ala Gly Ile Leu Pro Leu Leu Pro Val Leu Ile Leu Glu Ile
 65 70 75 80
 Ile Leu Ile Thr Val Leu Val Leu Leu Phe Cys Leu Val Leu Glu Pro
 85 90 95
 Tyr Leu Ile Glu Lys Pro Ser Lys Ile Lys Glu Leu Pro Lys Val Asp
 100 105 110
 Glu Leu Ser Val Val Glu Thr Asp Ser Thr Leu
 115 120

<210> 169
 <211> 111
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0167

<400> 169
 Asn Leu Trp Ser His Phe Pro Arg Gly Phe Phe Met Leu Pro Phe Cys
 1 5 10 15
 Pro Thr Ile Leu Leu Ala Lys Pro Phe Leu Asn Ser Glu Asn Tyr Gly
 20 25 30
 Leu Glu Arg Leu Ala Ala Thr Val Asp Ser Tyr Phe Asp Leu Gly Gln
 35 40 45
 Ser Gln Ile Val Phe Leu Ser Lys Gln Asp Gln Gly Ile Thr Val Glu
 50 55 60
 Glu Leu Ser Ala Lys Asp Arg Lys Phe Lys Pro Gly Ser Met Asn Cys
 65 70 75 80

Thr Leu Tyr Thr Glu Asp Pro Ile Leu Pro Ala His Asn Ser Phe Ser
85 90 95
Asn Cys Ser Asp Ile Gln Met Arg Thr Pro Ile Ser Pro Ile His
100 105 110

<210> 170
<211> 100
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0168

<400> 170
Ser Tyr Ile Asn Leu Arg Arg Arg Glu Asn Pro Glu His Phe Phe Asn
1 5 10 15
Pro Gly His Pro Cys Tyr Tyr Ala Arg Leu Ala Phe Asn Glu Ser Val
20 25 30
Arg Ile Tyr Arg Lys Leu Phe Asn Thr Ala Glu Leu Lys Gln Met Tyr
35 40 45
Gly Ala Gly Asp Tyr Glu Gln Gln Asn Glu Asp Asn Leu Lys Ser Ile
50 55 60
Leu Ser Phe Val Gln Ile Leu Asp Glu Lys Asp Gly Phe Asp Asp Phe
65 70 75 80
Leu Ala Thr His Lys Asp Thr Thr Phe Ile Gly Arg Gly Gly Ala Asp
85 90 95
Ile Phe Cys Ser
100

<210> 171
<211> 276
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0169

<400> 171
Ser Phe His Ile Glu Phe Thr Ile Gly Glu Asn Asn Met Lys Asn Val
1 5 10 15
Gly Ser Glu Cys Ser Gln Pro Leu Val Met Glu Leu Asn Thr Gln Pro
20 25 30
Leu Arg Asn Leu Cys Glu Ser Arg Leu Val Lys Ile Thr Ser Phe Val
35 40 45
Ile Ala Leu Leu Ala Leu Val Gly Gly Ile Thr Leu Thr Ala Leu Ala
50 55 60
Gly Ala Gly Ile Leu Ser Phe Leu Pro Trp Leu Val Leu Gly Ile Val
65 70 75 80
Leu Val Val Leu Cys Ala Leu Phe Leu Leu Phe Ser Tyr Lys Phe Cys
85 90 95
Pro Ile Lys Glu Leu Gly Val Val Tyr Asn Thr Asp Ser Gln Ile His
100 105 110
Gln Trp Phe Gln Lys Gln Arg Asn Lys Asp Leu Glu Lys Ala Thr Glu
115 120 125
Asn Pro Glu Leu Phe Gly Glu Asn Arg Ala Glu Asp Asn Asn Arg Ser
130 135 140
Ala Arg Ser Gln Val Lys Glu Thr Leu Arg Asp Cys Asp Gly Asn Val
145 150 155 160
Leu Lys Lys Ile Tyr Glu Arg Asn Leu Asp Val Leu Leu Phe Met Asn
165 170 175

Trp Val Pro Lys Thr Met Asp Asp Val Asp Pro Val Ser Glu Asp Ser
 180 185 190
 Ile Arg Thr Val Ile Ser Cys Tyr Lys Leu Ile Lys Ala Cys Lys Pro
 195 200 205
 Glu Phe Arg Ser Leu Ile Ser Glu Leu Leu Arg Ala Met Gln Ser Gly
 210 215 220
 Leu Gly Leu Leu Ser Arg Cys Ser Arg Tyr Gln Glu Arg Ala Lys Thr
 225 230 235 240
 Val Ser His Lys Asp Ala Pro Leu Phe Cys Pro Thr His Ser Tyr Tyr
 245 250 255
 Arg Asp Gly Tyr Leu Thr Pro Leu Arg Ala Gly Pro Arg Tyr Ile Ile
 260 265 270
 Asn Arg Ala Ile
 275

<210> 172
 <211> 358
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0170

<400> 172
 Asn Val Arg Lys Asn His Ile Ile Arg Gly Glu Lys Tyr Asn Thr Cys
 1 5 10 15
 Thr Val Ile Ala Phe Val Leu Ser Met Ser Tyr Asp Thr Leu Phe Lys
 20 25 30
 Asn Leu Glu Lys Glu Asp Ser Val His Lys Ile Cys Asn Glu Ile Phe
 35 40 45
 Ala Leu Val Pro Arg Leu Asn Thr Ile Ala Cys Thr Glu Ala Ile Ile
 50 55 60
 Lys Asn Leu Pro Lys Ala Asp Ile His Val His Leu Pro Gly Thr Ile
 65 70 75 80
 Thr Pro Gln Leu Ala Trp Ile Leu Gly Val Lys Asn Gly Phe Leu Lys
 85 90 95
 Trp Ser Tyr Asn Ser Trp Thr Asn His Arg Leu Leu Ser Pro Lys Asn
 100 105 110
 Pro His Lys Gln Tyr Ser Asn Ile Phe Arg Asn Phe Gln Asp Ile Cys
 115 120 125
 His Glu Lys Asp Pro Asp Leu Ser Val Leu Gln Tyr Asn Ile Leu Asn
 130 135 140
 Tyr Asp Phe Asn Ser Phe Asp Arg Val Met Ala Thr Val Gln Gly His
 145 150 155 160
 Arg Phe Pro Pro Gly Gly Ile Gln Asn Glu Glu Asp Leu Leu Leu Ile
 165 170 175
 Phe Asn Asn Tyr Leu Gln Gln Cys Leu Asp Asp Thr Ile Val Tyr Thr
 180 185 190
 Glu Val Gln Gln Asn Ile Arg Leu Ala His Val Leu Tyr Pro Ser Leu
 195 200 205
 Pro Glu Lys His Ala Arg Met Lys Phe Tyr Gln Ile Leu Tyr Arg Ala
 210 215 220
 Ser Gln Thr Phe Ser Lys His Gly Ile Thr Leu Arg Phe Leu Asn Cys
 225 230 235 240
 Phe Asn Lys Thr Phe Ala Pro Gln Ile Asn Thr Gln Glu Pro Ala Gln
 245 250 255
 Glu Ala Val Gln Trp Leu Gln Glu Val Asp Ser Thr Phe Pro Gly Leu
 260 265 270
 Phe Val Gly Ile Gln Ser Ala Gly Ser Glu Ser Ala Pro Gly Ala Cys
 275 280 285

Pro Lys Arg Leu Ala Ser Gly Tyr Arg Asn Ala Tyr Asp Ser Gly Phe
 290 295 300
 Gly Cys Glu Ala His Ala Gly Glu Gly Ile Glu Thr Arg Thr Ile Phe
 305 310 315 320
 Ser Ser Ala Lys Val Asn Pro Glu Gly Leu Ile Glu Ile Thr Arg Val
 325 330 335
 Thr Phe Ser Ser Leu Lys Arg Lys Gln Pro Ser Ser Leu Pro Ile Arg
 340 345 350
 Val Thr Cys Gln Leu Gly
 355

<210> 173
 <211> 432
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0171

<400> 173
 Ile Ile Lys Leu Gln Ser Ala Arg Arg His Leu Asn Thr Ile Phe Ile
 1 5 10 15
 Leu Asp Phe Gly Ser Gln Tyr Thr Tyr Val Leu Ala Lys Gln Val Arg
 20 25 30
 Lys Leu Phe Val Tyr Cys Glu Val Leu Pro Trp Asn Ile Ser Val Gln
 35 40 45
 Cys Leu Lys Glu Arg Ala Pro Leu Gly Ile Ile Leu Ser Gly Gly Pro
 50 55 60
 His Ser Val Tyr Glu Asn Lys Ala Pro His Leu Asp Pro Glu Ile Tyr
 65 70 75 80
 Lys Leu Gly Ile Pro Ile Leu Ala Ile Cys Tyr Gly Met Gln Leu Met
 85 90 95
 Ala Arg Asp Phe Gly Gly Thr Val Ser Pro Gly Val Gly Glu Phe Gly
 100 105 110
 Tyr Thr Pro Ile His Leu Tyr Pro Cys Glu Leu Phe Lys His Ile Val
 115 120 125
 Asp Cys Glu Ser Leu Asp Thr Glu Ile Arg Met Ser His Arg Asp His
 130 135 140
 Val Thr Thr Ile Pro Glu Gly Phe Asn Val Ile Ala Ser Thr Ser Gln
 145 150 155 160
 Cys Ser Ile Ser Gly Ile Glu Asn Thr Lys Gln Arg Leu Tyr Gly Leu
 165 170 175
 Gln Phe His Pro Glu Val Ser Asp Ser Thr Pro Thr Gly Asn Lys Ile
 180 185 190
 Leu Glu Thr Phe Val Gln Glu Ile Cys Ser Ala Pro Thr Leu Trp Asn
 195 200 205
 Pro Leu Tyr Ile Gln Gln Asp Leu Val Ser Lys Ile Gln Asp Thr Val
 210 215 220
 Ile Glu Val Phe Asp Glu Val Ala Gln Ser Leu Asp Val Gln Trp Leu
 225 230 235 240
 Ala-Gln-Gly Thr-Ile Tyr Ser Asp-Val-Ile Glu-Ser-Ser Arg-Ser Gly
 245 250 255
 His Ala Ser Glu Val Ile Lys Ser His His Asn Val Gly Gly Leu Pro
 260 265 270
 Lys Asn Leu Lys Leu Lys Leu Val Glu Pro Leu Arg Tyr Leu Phe Lys
 275 280 285
 Asp Glu Val Arg Ile Leu Gly Glu Ala Leu Gly Leu Ser Ser Tyr Leu
 290 295 300
 Leu Asp Arg His Pro Phe Pro Gly Pro Gly Leu Thr Ile Arg Val Ile
 305 310 315 320

Gly	Glu	Ile	Leu	Pro	Glu	Tyr	Leu	Ala	Ile	Leu	Arg	Arg	Ala	Asp	Leu
				325					330					335	
Ile	Phe	Ile	Glu	Glu	Leu	Arg	Lys	Ala	Lys	Leu	Tyr	Asp	Lys	Ile	Ser
			340					345					350		
Gln	Ala	Phe	Ala	Leu	Phe	Leu	Pro	Ile	Lys	Ser	Val	Ser	Val	Lys	Gly
		355					360					365			
Asp	Cys	Arg	Ser	Tyr	Gly	Tyr	Thr	Ile	Ala	Leu	Arg	Ala	Val	Glu	Ser
	370					375					380				
Thr	Asp	Phe	Met	Thr	Gly	Arg	Trp	Ala	Tyr	Leu	Pro	Cys	Asp	Val	Leu
385					390					395					400
Ser	Ser	Cys	Ser	Ser	Arg	Ile	Ile	Asn	Glu	Ile	Pro	Glu	Val	Ser	Arg
				405					410					415	
Val	Val	Tyr	Asp	Ile	Ser	Asp	Lys	Pro	Pro	Ala	Thr	Ile	Glu	Trp	Glu
			420					425					430		

<210> 174
 <211> 266
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0172

<400> 174															
Ala	Pro	Ile	Gly	Ala	Ala	Ile	Gly	Ile	Gly	Pro	Leu	Gly	Ile	Ser	Arg
1				5					10					15	
Ala	His	His	Leu	Val	Glu	Ala	Gly	Ala	Asn	Val	Leu	Val	Ile	Asp	Thr
			20					25					30		
Ala	His	Ala	His	Ser	Lys	Gly	Val	Phe	Gln	Thr	Val	Leu	Glu	Ile	Lys
		35				40						45			
Ser	Gln	Phe	Pro	Gln	Ile	Ser	Leu	Val	Val	Gly	Asn	Leu	Val	Thr	Ala
	50				55					60					
Glu	Ala	Ala	Val	Ser	Leu	Ala	Glu	Ile	Gly	Val	Asp	Ala	Val	Lys	Val
65					70					75				80	
Gly	Ile	Gly	Pro	Gly	Ser	Ile	Cys	Thr	Thr	Arg	Ile	Val	Ser	Gly	Val
				85					90					95	
Gly	Tyr	Pro	Gln	Ile	Thr	Ala	Ile	Thr	Asn	Val	Ala	Lys	Ala	Leu	Lys
			100					105					110		
Asn	Ser	Ala	Val	Thr	Val	Ile	Ala	Asp	Gly	Arg	Ile	Arg	Tyr	Ser	Gly
		115					120					125			
Asp	Val	Val	Lys	Ala	Leu	Ala	Ala	Gly	Ala	Asp	Cys	Val	Met	Leu	Gly
	130					135					140				
Ser	Leu	Leu	Ala	Gly	Thr	Asp	Glu	Ala	Pro	Gly	Asp	Ile	Val	Ser	Ile
145					150					155					160
Asp	Glu	Lys	Leu	Phe	Lys	Arg	Tyr	Arg	Gly	Met	Gly	Ser	Leu	Gly	Ala
			165						170					175	
Met	Lys	Gln	Gly	Ser	Ala	Asp	Arg	Tyr	Phe	Gln	Thr	Gln	Gly	Gln	Lys
			180					185					190		
Lys	Leu	Val	Pro	Gly	Gly	Val	Glu	Gly	Leu	Val	Ala	Tyr	Lys	Gly	Ser
		195					200						205		
Val	His	Asp	Val	Leu	Tyr	Gln	Ile	Leu	Gly	Gly	Ile	Arg	Ser	Gly	Met
	210					215					220				
Gly	Tyr	Val	Gly	Ala	Glu	Thr	Leu	Lys	Asp	Leu	Lys	Thr	Lys	Ala	Ser
225					230					235					240
Phe	Val	Arg	Ile	Thr	Glu	Ser	Gly	Arg	Ala	Glu	Ser	His	Ile	His	Asn
			245						250					255	
Ile	Tyr	Lys	Val	Gln	Pro	Thr	Leu	Asn	Tyr						
			260					265							

<210> 175
 <211> 109
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0173

<400> 175
 Thr Ile Phe Asp Leu Ile Tyr Lys Ile Asp Ser Tyr Lys His Gln Gln
 1 5 10 15
 Gly Phe Met Asp Phe Ser Val Phe Pro Asp Arg Phe Val Glu Ser Thr
 20 25 30
 Ser Pro Ser Pro Ile Glu Asp Ile Asp Ala Lys Thr Leu Val Ser Asn
 35 40 45
 Cys Cys His Tyr Cys Ser Arg Cys Leu Phe Ile Phe Leu Ser Leu Leu
 50 55 60
 Ser Ile Ile Ile Cys Phe Ser Val Tyr Gly Thr Ser Gly Glu Thr Ala
 65 70 75 80
 Ser Leu Val Phe Gly Ile Leu Ser Leu Ile Val Leu Val Leu Leu Ile
 85 90 95
 Ile Glu Cys Arg Asn Arg Glu Cys Cys Arg Arg Ile Ser
 100 105

<210> 176
 <211> 170
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0174

<400> 176
 Lys Ile Phe Ile Trp Phe Val Glu Lys Ile Val Ile Leu Ser Met Ile
 1 5 10 15
 Met Thr Thr Ile Ser Asn Ser Pro Ser Pro Ala Leu Asn Pro Glu Leu
 20 25 30
 Ser Leu Ile Pro Pro Pro Thr Leu Val Ser Ser Gly Thr Gln Thr Ser
 35 40 45
 Leu Ala Tyr Thr Ile Pro Ala Gln Gly Arg Arg Ser Thr Leu Arg Ile
 50 55 60
 Ile Leu Asp Ile Phe Ile Ile Ile Leu Gly Leu Ala Thr Ile Ile Ser
 65 70 75 80
 Thr Phe Ile Val Ile Phe Phe Leu Asn Gly Leu Asn Leu Leu Ser Thr
 85 90 95
 Pro Ser Ile Ile Ser Ser Ser Cys Leu Ile Ile Val Gly Leu Leu Phe
 100 105 110
 Leu Ile Met Gly Leu Tyr Phe Met Ile Ser Ser Leu Asp Gln Gly Leu
 115 120 125
 Val Gly Leu Leu Gln Lys Glu Leu Ser Gln Ala Glu Arg Glu Glu
 130 135 140
 Glu Tyr Ile Gln Glu Ile Glu Ala Leu Arg Gly Ala Pro Arg Ala Glu
 145 150 155 160
 Ser Pro Thr Glu Ser Pro Ser Thr Trp Leu
 165 170

<210> 177
 <211> 140
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0175

<400> 177

Leu	Leu	Leu	Ala	Cys	Phe	Gln	Phe	Leu	Leu	Arg	Arg	Arg	Asp	Met	Glu
1				5					10					15	
Gln	Pro	Asn	Cys	Val	Ile	Gln	Asp	Thr	Thr	Thr	Val	Leu	Tyr	Ala	Leu
			20					25					30		
Asn	Ser	Phe	Asp	Pro	Arg	Leu	Ser	Asp	Asp	Thr	His	Arg	Leu	Gly	Lys
		35					40					45			
Gln	Ser	Pro	Leu	Glu	Ala	Glu	Asn	Ala	Leu	Gly	Glu	Phe	Ile	Glu	Gly
	50					55					60				
Leu	Asp	Thr	Asn	Ser	Phe	Pro	Leu	Glu	Glu	Val	Ala	Ile	Pro	Ile	Leu
65					70					75					80
Pro	Gly	Tyr	His	Pro	Lys	Phe	Tyr	Leu	Ser	Phe	Ile	Asp	Arg	Asp	Asp
				85					90					95	
Gln	Gly	Val	His	Tyr	Glu	Val	Leu	Asp	Gly	Val	Phe	Leu	Lys	Thr	Val
			100					105						110	
Ala	Ala	Cys	Ile	Ile	Glu	Asn	Ser	Phe	Leu	Thr	Asp	Ser	Met	Ser	Pro
		115					120					125			
Glu	Leu	Leu	Ser	Glu	Val	Lys	Glu	Ala	Leu	Lys	Arg				
	130						135					140			

<210> 178

<211> 416

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0176

<400> 178

Asn	Asp	Asp	Asp	Pro	Met	Asp	Glu	Ser	Asp	Gly	Glu	Glu	Ala	Ser	Lys
1				5					10					15	
Asp	Ser	Ala	Phe	Ser	Ala	Ser	Phe	Ser	Tyr	Glu	Phe	Val	Lys	Ser	Ser
			20					25					30		
Thr	Arg	Glu	Ser	Lys	Asn	Thr	Val	Thr	His	Ser	Thr	Ala	Ser	Arg	Thr
		35					40					45			
Leu	Tyr	Ile	Leu	Arg	Gln	Asp	Cys	Ser	Tyr	Asp	Pro	Arg	Ala	Leu	Lys
	50					55					60				
Val	Asp	Asp	Glu	Phe	Arg	Tyr	Trp	Val	Glu	Lys	Arg	Leu	Asp	Ala	Lys
65					70					75					80
Asn	Pro	Asp	Ser	Leu	Asn	Ala	Phe	Val	Lys	Glu	Val	Gly	Thr	His	Tyr
				85					90					95	
Val	Ala	Ser	Val	Thr	Tyr	Gly	Gly	Ile	Gly	Phe	Gln	Val	Leu	Lys	Met
			100					105					110		
Ser	Tyr	Leu	Gln	Val	Glu	Glu	Leu	Glu	Lys	Glu	Lys	Ile	Ser	Ile	Ser
		115					120					125			
Val	Ala	Ala	Ala	Ser	Ser	Leu	Leu	Lys	Ser	Lys	Thr	Ser	Asn	Ala	Thr
	130						135					140			
Glu	Lys	Gly	Tyr	Ser	Ser	Tyr	Gln	Ser	Glu	Ser	Ser	Ala	Gln	Thr	Val
145					150					155					160
Phe	Leu	Gly	Gly	Thr	Val	Leu	Pro	Asp	Leu	Gln	Gln	Asp	Lys	Leu	Asp
				165					170					175	
Phe	Lys	Asp	Trp	Ser	Glu	Ser	Ile	Pro	Asn	Glu	Pro	Ile	Pro	Leu	Ala
			180					185					190		
Ile	Ser	Val	Ser	Ser	Ile	Thr	Asp	Leu	Ile	Ile	Pro	Glu	Leu	Phe	Pro
		195					200					205			
Ser	Glu	Asp	Ala	Gln	Val	Leu	Ser	Gln	Lys	Lys	Ser	Ala	Leu	Gly	Gln
	210						215					220			

Val	Ile	Leu	Asn	Tyr	Leu	Glu	Ser	His	Lys	Pro	Lys	Glu	Glu	Gly	Pro
225					230					235					240
Lys	Pro	Val	Gln	Ile	Thr	Ser	Gly	Phe	Asn	Ser	Ser	Ser	Ser	Val	Phe
			245						250					255	
Thr	Leu	Gln	Ala	Ala	Lys	Ala	Pro	Lys	Thr	Val	Ser	Phe	Pro	Tyr	Ile
			260					265					270		
Asp	Tyr	Trp	Ser	Thr	Ile	Pro	Tyr	Leu	Phe	Pro	Thr	Leu	Lys	Glu	Thr
	275						280					285			
Ser	Gly	Ala	Gln	Pro	Leu	Ser	Phe	Tyr	Leu	Arg	Phe	Asp	Asp	Ile	Phe
	290					295					300				
Glu	Gln	Gln	Asn	Leu	Val	His	Asn	Thr	Ser	Tyr	Ile	Leu	Ala	Ser	Thr
305					310					315					320
Ser	Val	Arg	Leu	Gly	Tyr	Phe	Gly	Asp	Ser	Tyr	Arg	Asp	Tyr	Asp	Ala
			325					330						335	
Leu	Ser	Phe	Tyr	Gly	Ser	Trp	Pro	Gln	Ala	Tyr	Phe	Asp	Trp	Ala	Gly
		340					345						350		
Tyr	Lys	Asp	Arg	Cys	Thr	Trp	Thr	Leu	Glu	Lys	Leu	Asn	Thr	Thr	Gly
	355						360					365			
Asp	Leu	Phe	Ile	Arg	Ser	Gly	Asp	Glu	Ile	Arg	Leu	Lys	His	Asn	Thr
	370					375					380				
Ser	Gly	Lys	Tyr	Leu	Ala	Thr	Thr	Ser	Met	Ser	Asp	Gly	Tyr	Gln	Lys
385					390					395					400
Leu	Thr	Cys	Thr	Thr	Gln	Thr	Ser	Asp	Ser	Val	Phe	Ile	Ile	Thr	Val
			405					410						415	

<210> 179
 <211> 302
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0177

<400> 179															
Asp	Lys	Arg	Glu	Gln	Thr	Lys	Ser	Lys	Phe	Ile	Phe	Leu	Ile	Ser	Glu
1			5						10				15		
Glu	Ser	Met	Lys	Gln	Pro	Met	Ser	Leu	Ile	Phe	Ser	Ser	Val	Cys	Leu
		20						25					30		
Gly	Leu	Gly	Leu	Gly	Ser	Leu	Ser	Ser	Cys	Asn	Gln	Lys	Pro	Ser	Trp
	35					40						45			
Asn	Tyr	His	Asn	Thr	Ser	Thr	Ser	Glu	Glu	Phe	Phe	Val	His	Gly	Asn
	50					55					60				
Lys	Ser	Val	Ser	Gln	Leu	Pro	His	Tyr	Pro	Ser	Ala	Phe	Arg	Thr	Thr
65				70					75					80	
Gln	Ile	Phe	Ser	Glu	Glu	His	Asn	Asp	Pro	Tyr	Val	Val	Ala	Lys	Thr
			85					90					95		
Asp	Glu	Glu	Ser	Arg	Lys	Ile	Trp	Arg	Glu	Ile	His	Lys	Asn	Leu	Lys
	100						105						110		
Ile	Lys	Gly	Ser	Tyr	Ile	Pro	Ile	Ser	Thr	Tyr	Gly	Ser	Leu	Met	His
	115					120						125			
Pro	Lys	Ser	Ala	Ala	Leu	Thr	Leu	Lys	Thr	Tyr	Arg	Pro	His	Pro	Ile
	130					135					140				
Trp	Ile	Asn	Gly	Tyr	Glu	Arg	Ser	Phe	Asn	Ile	Asp	Thr	Gly	Lys	Tyr
145					150				155					160	
Leu	Lys	Asn	Gly	Ser	Arg	Arg	Arg	Thr	Ser	His	Asp	Gly	Pro	Lys	Asn
		165						170					175		
Arg	Ala	Val	Leu	Asn	Leu	Ile	Lys	Ser	Ser	Gly	Arg	Arg	Cys	Asn	Ala
		180					185						190		
Ile	Gly	Leu	Glu	Met	Thr	Glu	Glu	Asp	Phe	Val	Ile	Ala	Arg	Arg	Arg
	195					200						205			

Glu	Gly	Val	Tyr	Ser	Leu	Tyr	Pro	Val	Glu	Val	Cys	Ser	Tyr	Pro	Gln
210						215					220				
Gly	Asn	Pro	Phe	Val	Ile	Ala	Tyr	Ala	Trp	Ile	Ala	Asp	Glu	Ser	Ala
225					230					235					240
Cys	Ser	Lys	Glu	Val	Leu	Pro	Val	Lys	Gly	Tyr	Tyr	Ser	Leu	Val	Trp
			245						250					255	
Glu	Ser	Val	Ser	Ser	Ser	Asp	Ser	Leu	Asn	Ala	Phe	Gly	Asp	Ser	Phe
			260					265					270		
Ala	Glu	Asp	Tyr	Leu	Arg	Ser	Thr	Phe	Leu	Ala	Asn	Gly	Thr	Ser	Ile
		275					280					285			
Leu	Cys	Val	His	Glu	Ser	Tyr	Lys	Lys	Val	Pro	Pro	Gln	Pro		
290						295					300				

<210> 180
 <211> 88
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0178

Val	Lys	Glu	Tyr	Leu	Asp	Phe	Leu	Val	Gln	Arg	Asn	Val	Glu	Arg	Asp
1				5					10					15	
Pro	Gln	Thr	Lys	Arg	His	Cys	Thr	Val	Ser	Gln	Lys	Phe	Gly	Gly	Glu
			20					25					30		
Ser	Ile	Asp	Ala	Lys	Thr	Thr	Thr	Gly	Gln	Leu	Phe	His	Ile	Ala	Gly
		35					40					45			
Lys	Thr	Glu	Pro	Gly	His	Gly	Lys	Leu	Cys	Leu	Gly	Glu	Ser	Ile	Leu
		50				55					60				
Lys	Gln	Leu	Leu	Ala	Leu	Gly	Ile	Ile	Thr	Gly	Tyr	Glu	Asn	Arg	Glu
65					70					75					80
Arg	Glu	Val	Trp	Val	Tyr	Leu	Asp								
						85									

<210> 181
 <211> 165
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0179

Pro	Lys	Ile	Trp	Asp	Thr	His	Phe	Glu	Thr	Arg	Ile	Glu	Ala	Thr	Ser
1				5					10					15	
Val	Pro	Lys	Phe	Asn	Arg	Arg	Leu	Arg	Lys	Ser	Phe	His	Lys	Ser	Gly
			20					25					30		
Arg	Ser	Ser	Arg	Pro	Ser	Lys	Ala	Cys	Val	Ala	Asn	Phe	Phe	Asn	Phe
		35					40					45			
Thr	Leu	Gln	Ala	Gly	Arg	Ser	Gly	Ile	Ile	Pro	Gly	Lys	Lys	Ala	Ile
	50					55					60				
Leu	Leu	Asn	Val	Asn	Asp	Ala	Lys	Thr	Pro	Asn	Tyr	Ser	Cys	Ile	Phe
65					70					75					80
Glu	Ser	Ile	Gly	Phe	Phe	Asn	Glu	Gln	Asp	Leu	Glu	Ala	Gln	His	Asn
				85					90					95	
Gln	Gln	Ala	Ala	Leu	Val	Arg	Lys	Ile	Leu	Lys	Val	Val	Pro	His	His
			100					105					110		
Phe	Leu	Lys	Gly	Leu	Ile	Ala	Lys	Leu	Pro	Arg	Ser	Leu	Lys	Lys	Asp
		115					120						125		

Arg Lys Phe Met Ser Ser Leu Ile Phe Thr Lys Leu Ser Tyr Ala Leu
 130 135 140
 Asp Leu Ser Ala Pro Met His Leu Glu Gly Lys Pro Asn Leu Ser Tyr
 145 150 155 160
 Glu Glu Lys Leu Asp
 165

<210> 182
 <211> 203
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0180

<400> 182
 Thr Ser Leu His Lys Ile Leu Asp Cys Lys Tyr Lys Pro Val Phe Ile
 1 5 10 15
 Gln Asn Thr Val Ala Ser Glu Thr Tyr Pro Ser Gln Ile Leu His Ala
 20 25 30
 Gln Arg Glu Val Arg Asp Ala Tyr Phe Asn Gln Ala Asp Cys His Pro
 35 40 45
 Ala Arg Ala Asn Gln Ile Leu Glu Ala Lys Lys Ile Cys Leu Leu Asp
 50 55 60
 Val Tyr His Thr Asn His Tyr Ser Val Phe Thr Phe Cys Val Asp Asn
 65 70 75 80
 Tyr Pro Asn Leu Arg Phe Thr Phe Val Ser Ser Lys Asn Asn Glu Met
 85 90 95
 Asn Gly Leu Ser Asn Pro Leu Asp Asn Val Leu Val Glu Ala Met Val
 100 105 110
 Arg Arg Thr His Ala Arg Asn Leu Leu Ala Ala Cys Lys Ile Arg Asn
 115 120 125
 Ile Glu Val Pro Arg Val Val Gly Leu Asp Leu Arg Ser Gly Ile Leu
 130 135 140
 Ile Ser Lys Leu Glu Leu Lys Gln Pro Gln Phe Gln Ser Leu Thr Glu
 145 150 155 160
 Asp Phe Val Asn His Ser Thr Asn Gln Glu Glu Ala Arg Val His Gln
 165 170 175
 Lys His Val Leu Leu Ile Ser Leu Ile Leu Leu Cys Lys Gln Ala Val
 180 185 190
 Leu Glu Ser Phe Gln Glu Lys Lys Arg Ser Ser
 195 200

<210> 183
 <211> 133
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0181

<400> 183
 Val His Glu Leu Phe Lys Ile Asp Gly Val Tyr Tyr Phe Phe Lys Lys
 1 5 10 15
 Phe Met Lys Leu Phe Tyr Asn Asn Tyr Ser Leu Asn Ser His His Glu
 20 25 30
 Lys Pro Ser Ser Leu Glu Lys Ala Val Gln Ala Leu Asp Ser Tyr Phe
 35 40 45
 Tyr Trp Gly Gly Asp Thr Thr Asp Val Leu Ala Arg Asp Asp Ile Ser
 50 55 60

Arg Glu Ile Tyr Cys Val Arg Arg Leu Tyr Ile Arg Phe Trp Ile Val
65 70 75 80
Ser Ile Ser Gln Ser Leu Ser Arg Ile Pro Trp Arg Leu Lys Arg Ile
85 90 95
Leu Leu Arg Tyr Cys Thr Leu Arg Gly Lys Tyr Val Met Pro Ile Leu
100 105 110
Ile Lys Arg Ile Ala Ile Leu Leu Gly Leu Ile Arg Phe Ser Arg Leu
115 120 125
Arg Lys Ser Val Tyr
130

<210> 184
<211> 457
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0182

<400> 184
Arg Cys Ile Met Lys Lys Val Leu Ile Ala Asn Arg Gly Glu Ile Ala
1 5 10 15
Val Arg Ile Ile Arg Ala Cys His Asp Leu Gly Leu Ser Thr Val Ala
20 25 30
Val Tyr Ser Leu Ala Asp Gln Glu Ala Leu His Val Leu Leu Ala Asp
35 40 45
Glu Ala Ile Cys Ile Gly Glu Pro Gln Ala Ala Lys Ser Tyr Leu Lys
50 55 60
Ile Ser Asn Ile Leu Ala Ala Cys Glu Ile Thr Gly Ala Asp Ala Val
65 70 75 80
His Pro Gly Tyr Gly Phe Leu Ser Glu Asn Ala Asn Phe Ala Ser Ile
85 90 95
Cys Glu Ser Cys Gly Leu Thr Phe Ile Gly Pro Ser Ser Glu Ser Ile
100 105 110
Ala Met Met Gly Asp Lys Ile Ala Ala Lys Ser Leu Ala Lys Lys Ile
115 120 125
Lys Cys Pro Val Ile Pro Gly Ser Glu Gly Ile Ile Glu Asp Glu Ser
130 135 140
Glu Gly Leu Lys Ile Ala Glu Lys Ile Gly Phe Pro Ile Val Ile Lys
145 150 155 160
Ala Val Ala Gly Gly Gly Gly Arg Gly Ile Arg Ile Val Lys Glu Lys
165 170 175
Asp Glu Phe Tyr Arg Ala Phe Ser Ala Arg Ala Glu Ala Glu Ala
180 185 190
Gly Phe Asn Asn Pro Asn Val Tyr Ile Glu Lys Phe Ile Glu Asn Pro
195 200 205
Arg His Leu Glu Ile Gln Val Ile Gly Asp Thr His Gly Asn Tyr Val
210 215 220
His Leu Gly Glu Arg Asp Cys Thr Ile Gln Arg Arg Gln Lys Leu
225 230 235 240
Ile Glu Glu Thr Pro Ser Pro Ile Leu Asn Ala Glu Ile Arg Val Lys
245 250 255
Val Gly Lys Val Ala Val Asp Leu Ala Arg Ser Ala Gly Tyr Phe Ser
260 265 270
Val Gly Thr Val Glu Phe Leu Leu Asp Lys Asp Lys Lys Phe Tyr Phe
275 280 285
Met Glu Met Asn Thr Arg Ile Gln Val Glu His Thr Ile Thr Glu Glu
290 295 300
Val Thr Gly Ile Asp Leu Val Lys Glu Gln Ile His Val Ala Met Gly
305 310 315 320

Asn	Lys	Leu	Pro	Trp	Lys	Gln	Lys	Asn	Ile	Glu	Phe	Ser	Gly	His	Ile
				325					330					335	
Ile	Gln	Cys	Arg	Ile	Asn	Ala	Glu	Asp	Pro	Thr	Asn	Asn	Phe	Ser	Pro
			340					345					350		
Ser	Pro	Gly	Arg	Leu	Asp	Tyr	Tyr	Leu	Pro	Pro	Ala	Gly	Pro	Ser	Ile
		355				360						365			
Arg	Val	Asp	Gly	Ala	Cys	Tyr	Ser	Gly	Tyr	Ala	Ile	Pro	Pro	Tyr	Tyr
		370				375				380					
Asp	Ser	Met	Ile	Ala	Lys	Val	Ile	Ala	Lys	Gly	Lys	Asn	Arg	Glu	Glu
385					390					395					400
Ala	Ile	Ala	Ile	Met	Lys	Arg	Ala	Leu	Lys	Glu	Phe	His	Ile	Gly	Gly
			405						410					415	
Val	Gln	Ser	Thr	Ile	Pro	Phe	His	Gln	Phe	Met	Leu	Asp	Asn	Pro	Lys
			420					425					430		
Phe	Leu	Glu	Ser	Asn	Tyr	Asp	Ile	Asn	Tyr	Ile	Asp	Asn	Leu	Leu	Ala
		435				440					445				
Gln	Gly	Asn	Ser	Phe	Phe	Lys	Glu	Phe							
	450					455									

<210> 185
 <211> 171
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0183

Arg	Arg	Leu	Gly	Met	Asp	Leu	Lys	Gln	Ile	Glu	Lys	Leu	Met	Ile	Ala
1				5					10					15	
Met	Gly	Arg	Asn	Gly	Met	Lys	Arg	Phe	Ala	Ile	Lys	Arg	Glu	Gly	Leu
			20					25					30		
Glu	Leu	Glu	Leu	Glu	Arg	Asp	Thr	Arg	Glu	Gly	Asn	Arg	Gln	Glu	Pro
		35				40						45			
Val	Phe	Tyr	Asp	Ser	Arg	Leu	Phe	Ser	Gly	Phe	Ser	Gln	Glu	Arg	Pro
	50					55					60				
Ile	Pro	Thr	Asp	Pro	Lys	Lys	Asp	Thr	Ile	Lys	Glu	Thr	Thr	Thr	Glu
65					70					75					80
Asn	Ser	Glu	Thr	Ser	Thr	Thr	Thr	Ser	Ser	Gly	Asp	Phe	Ile	Ser	Ser
			85						90					95	
Pro	Leu	Val	Gly	Thr	Phe	Tyr	Gly	Ser	Pro	Ala	Pro	Asp	Ser	Pro	Ser
		100					105						110		
Phe	Val	Lys	Pro	Gly	Asp	Ile	Val	Ser	Glu	Asp	Thr	Ile	Val	Cys	Ile
		115					120					125			
Val	Glu	Ala	Met	Lys	Val	Met	Asn	Glu	Val	Lys	Ala	Gly	Met	Ser	Gly
		130				135					140				
Arg	Val	Leu	Glu	Val	Leu	Ile	Thr	Asn	Gly	Asp	Pro	Val	Gln	Phe	Gly
145					150					155					160
Ser	Lys	Leu	Phe	Arg	Ile	Ala	Lys	Asp	Ala	Ser					
				165					170						

<210> 186
 <211> 198
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0184

<400> 186

Gln	Trp	Lys	Ile	Lys	Phe	Cys	Cys	Cys	Glu	Glu	Lys	Ile	Met	Val	Leu
1				5					10					15	
Ser	Ser	Gln	Leu	Ser	Val	Gly	Met	Phe	Ile	Ser	Thr	Lys	Asp	Gly	Leu
			20					25					30		
Tyr	Lys	Val	Thr	Ser	Val	Ser	Lys	Val	Ala	Gly	Pro	Lys	Gly	Glu	Ser
		35					40					45			
Phe	Ile	Lys	Val	Ala	Leu	Gln	Ala	Ala	Asp	Ser	Asp	Val	Val	Ile	Glu
		50				55					60				
Arg	Asn	Phe	Lys	Ala	Thr	Gln	Glu	Val	Lys	Glu	Ala	Gln	Phe	Glu	Thr
65					70					75				80	
Arg	Thr	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Asp	Glu	Ser	Tyr	Leu	Phe	Leu
			85					90					95		
Asp	Leu	Gly	Asn	Tyr	Glu	Lys	Leu	Phe	Ile	Pro	Gln	Glu	Ile	Met	Lys
			100					105					110		
Asp	Asn	Phe	Leu	Phe	Leu	Lys	Ala	Gly	Val	Thr	Val	Ser	Ala	Met	Val
			115				120					125			
Tyr	Asp	Asn	Val	Val	Phe	Ser	Val	Glu	Leu	Pro	His	Phe	Leu	Glu	Leu
	130					135					140				
Met	Val	Ser	Lys	Thr	Asp	Phe	Pro	Gly	Asp	Ser	Leu	Ser	Leu	Ser	Gly
145					150				155						160
Gly	Val	Lys	Lys	Ala	Leu	Leu	Glu	Thr	Gly	Ile	Glu	Val	Met	Val	Pro
				165					170					175	
Pro	Phe	Val	Glu	Ile	Gly	Asp	Val	Ile	Lys	Ile	Asp	Thr	Arg	Thr	Cys
			180					185					190		
Glu	Tyr	Ile	Gln	Arg	Val										
			195												

<210> 187

<211> 231

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0185

<400> 187

Ala	Glu	Val	Lys	Lys	Gln	Glu	Ser	Val	Leu	Val	Gly	Pro	Ser	Ile	Met
1				5					10					15	
Gly	Ala	Asp	Leu	Thr	Cys	Leu	Gly	Val	Glu	Ala	Lys	Lys	Leu	Glu	Gln
			20					25					30		
Ala	Gly	Ser	Asp	Phe	Ile	His	Ile	Asp	Ile	Met	Asp	Gly	His	Phe	Val
		35					40					45			
Pro	Asn	Leu	Thr	Phe	Gly	Pro	Gly	Ile	Ile	Ala	Ala	Ile	Asn	Arg	Ser
	50					55					60				
Thr	Asp	Leu	Phe	Leu	Glu	Val	His	Ala	Met	Ile	Tyr	Asn	Pro	Phe	Glu
65					70					75				80	
Phe	Ile	Glu	Ser	Phe	Val	Arg	Ser	Gly	Ala	Asp	Arg	Ile	Ile	Val	His
			85					90					95		
Phe	Glu	Ala	Ser	Glu	Asp	Ile	Lys	Glu	Leu	Leu	Ser	Tyr	Ile	Lys	Lys
			100					105					110		
Cys	Gly	Val	Gln	Ala	Gly	Leu	Ala	Phe	Ser	Pro	Asp	Thr	Ser	Ile	Glu
		115					120					125			
Phe	Leu	Pro	Ser	Phe	Leu	Pro	Phe	Cys	Asp	Val	Val	Val	Leu	Met	Ser
	130					135				140					
Val	Tyr	Pro	Gly	Phe	Thr	Gly	Gln	Ser	Phe	Leu	Pro	Asn	Thr	Ile	Glu
145					150					155					160
Lys	Ile	Ala	Phe	Ala	Arg	His	Ala	Ile	Lys	Thr	Leu	Gly	Leu	Lys	Asp
			165						170					175	
Ser	Cys	Leu	Ile	Glu	Val	Asp	Gly	Gly	Ile	Asp	Gln	Gln	Ser	Ala	Pro
			180					185					190		

Leu Cys Arg Asp Ala Gly Ala Asp Ile Leu Val Thr Ala Ser Tyr Leu
 195 200 205
 Phe Glu Ala Asp Ser Leu Ala Met Glu Asp Lys Ile Leu Leu Leu Arg
 210 215 220
 Gly Glu Asn Tyr Gly Val Lys
 225 230

<210> 188
 <211> 397
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0186

<400> 188
 Pro Ile Lys Asp Lys Ile Leu Met Ser Ser Pro Val Asn Asn Thr Pro
 1 5 10 15
 Ser Ala Pro Asn Ile Pro Ile Pro Ala Pro Thr Thr Pro Gly Ile Pro
 20 25 30
 Thr Thr Lys Pro Arg Ser Ser Phe Ile Glu Lys Val Ile Ile Val Ala
 35 40 45
 Lys Tyr Ile Leu Phe Ala Ile Ala Ala Thr Ser Gly Ala Leu Gly Thr
 50 55 60
 Ile Leu Gly Leu Ser Gly Ala Leu Thr Pro Gly Ile Gly Ile Ala Leu
 65 70 75 80
 Leu Val Ile Phe Phe Val Ser Met Val Leu Leu Gly Leu Ile Leu Lys
 85 90 95
 Asp Ser Ile Ser Gly Gly Glu Glu Arg Arg Leu Arg Glu Glu Val Ser
 100 105 110
 Arg Phe Thr Ser Glu Asn Gln Arg Leu Thr Val Ile Thr Thr Thr Leu
 115 120 125
 Glu Thr Glu Val Lys Asp Leu Lys Ala Ala Lys Asp Gln Leu Thr Leu
 130 135 140
 Glu Ile Glu Ala Phe Arg Asn Glu Asn Gly Asn Leu Lys Thr Thr Ala
 145 150 155 160
 Glu Asp Leu Glu Glu Gln Val Ser Lys Leu Ser Glu Gln Leu Glu Ala
 165 170 175
 Leu Glu Arg Ile Asn Gln Leu Ile Gln Ala Asn Ala Gly Asp Ala Gln
 180 185 190
 Glu Ile Ser Ser Glu Leu Lys Lys Leu Ile Ser Gly Trp Asp Ser Lys
 195 200 205
 Val Val Glu Gln Ile Asn Thr Ser Ile Gln Ala Leu Lys Val Leu Leu
 210 215 220
 Gly Gln Glu Trp Val Gln Glu Ala Gln Thr His Val Lys Ala Met Gln
 225 230 235 240
 Glu Gln Ile Gln Ala Leu Gln Ala Glu Ile Leu Gly Met His Asn Gln
 245 250 255
 Ser Thr Ala Leu Gln Lys Ser Val Glu Asn Leu Leu Val Gln Asp Gln
 260 265 270
 Ala Leu Thr Arg Val Val Gly Glu Leu Leu Glu Ser Glu Asn Lys Leu
 275 280 285
 Ser Gln Ala Cys Ser Ala Leu Arg Gln Glu Ile Glu Lys Leu Ala Gln
 290 295 300
 His Glu Thr Ser Leu Gln Gln Arg Ile Asp Ala Met Leu Ala Gln Glu
 305 310 315 320
 Gln Asn Leu Ala Glu Gln Val Thr Ala Leu Glu Lys Met Lys Gln Glu
 325 330 335
 Ala Gln Lys Ala Glu Ser Glu Phe Ile Ala Cys Val Arg Asp Arg Thr
 340 345 350

Phe Gly Arg Arg Glu Thr Pro Pro Pro Thr Thr Pro Val Val Glu Gly
 355 360 365
 Asp Glu Ser Gln Glu Glu Asp Glu Gly Gly Thr Pro Pro Val Ser Gln
 370 375 380
 Pro Ser Ser Pro Val Asp Arg Ala Thr Gly Asp Gly Gln
 385 390 395

<210> 189
 <211> 276
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0187

<400> 189
 Val Phe Leu Thr Tyr Thr Arg Thr Leu Pro Met His Ser Lys Phe Leu
 1 5 10 15
 Ser Arg Arg Lys Lys Asn Ser Ser His Lys Glu Glu Thr Ser Trp Asp
 20 25 30
 Cys Ile Ala Ser Ser Tyr Asn Lys Ile Val Gln Asp Lys Gly His Tyr
 35 40 45
 Tyr His Arg Glu Thr Ile Leu Pro Gln Leu Leu Pro Ser Leu Thr Leu
 50 55 60
 Gly Ser Lys Ser Ser Val Leu Asp Ile Gly Cys Gly Gln Gly Phe Leu
 65 70 75 80
 Glu Arg Ala Leu Pro Lys Glu Cys Arg Tyr Leu Gly Ile Asp Ile Ser
 85 90 95
 Ser Arg Leu Ile Ala Leu Ala Lys Lys Met Arg Ser Val Asn Ser His
 100 105 110
 Gln Phe Lys Val Ala Asp Leu Ser Lys Arg Leu Glu Phe Val Glu Pro
 115 120 125
 Thr Leu Phe Ser His Ala Val Ala Ile Leu Ser Leu Gln Asn Met Glu
 130 135 140
 Phe Pro Gly Glu Ala Ile Arg Asn Thr Ala Thr Leu Leu Glu Pro Leu
 145 150 155 160
 Gly Gln Phe Phe Ile Val Leu Asn His Pro Cys Phe Arg Ile Pro Arg
 165 170 175
 Ala Ser Ser Trp His Tyr Asp Glu Asn Lys Lys Ala Ile Ser Arg His
 180 185 190
 Ile Asp Arg Tyr Leu Ser Pro Met Lys Ile Pro Ile Met Ala His Pro
 195 200 205
 Gly Gln Lys Asp Ser Pro Ser Thr Leu Ser Phe His Phe Pro Leu Ser
 210 215 220
 Tyr Trp Phe Lys Glu Leu Ser Ser His Gly Phe Leu Val Ser Gly Leu
 225 230 235 240
 Glu Glu Trp Thr Ser Ser Lys Thr Ser Thr Gly Lys Arg Ala Lys Ala
 245 250 255
 Glu Asn Leu Cys Arg Lys Glu Phe Pro Leu Phe Leu Met Ile Ser Cys
 260 265 270
 Ile Lys Ile Lys
 275

<210> 190
 <211> 437
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0188

<400> 190
 Lys Thr Leu Asn Ser Cys Ile Met Phe Arg Lys Leu Phe Pro Phe Ser
 1 5 10 15
 Lys Lys Lys Thr Gly Gln Lys Gln Arg Leu Arg Asn Asn Gly Leu Leu
 20 25 30
 Gln Ala Ile Ile Gln Ser Ile Lys Val Leu Leu His Asn Glu Ala Ser
 35 40 45
 Lys Glu Ala Cys Val Leu Ser Tyr Tyr Gly Leu Leu Thr Cys Val Pro
 50 55 60
 Ile Leu Val Phe Phe Leu Arg Leu Ser Gln His Leu Phe Thr Asn Leu
 65 70 75 80
 Asn Trp Lys Glu Trp Leu Ile Ile Lys Phe Pro Asp Tyr Lys Lys Pro
 85 90 95
 Ile Val Ala Ile Val Glu Ala Ala Tyr His Ala Thr Glu Ser Asn Ile
 100 105 110
 Gly Leu Val Leu Val Gly Ser Phe Phe Val Phe Cys Trp Ala Gly Ile
 115 120 125
 Leu Met Leu Leu Ser Leu Glu Asp Gly Leu Asn Lys Ile Phe Arg Thr
 130 135 140
 Ser Trp Thr Pro Ile Ser Leu Lys Arg Leu Val Ser Tyr Phe Val Ile
 145 150 155 160
 Thr Leu Val Ser Pro Met Ile Phe Ile Ile Val Cys Gly Ser Trp Ile
 165 170 175
 Tyr Ile Thr Gln Ile Met Pro Ile Gln Tyr Ala Lys Leu Phe Ser Leu
 180 185 190
 Ser His Ser Met Thr Ala Leu Tyr Phe Ile Ser Arg Phe Val Pro Tyr
 195 200 205
 Leu Leu Leu Tyr Leu Ala Leu Phe Cys Cys Tyr Ala Phe Leu Pro Arg
 210 215 220
 Val Ala Ile Gln Lys Thr Ser Ala Leu Ile Ser Thr Leu Ile Ile Gly
 225 230 235 240
 Ser Val Trp Ile Val Phe Gln Lys Ala Phe Phe Ser Leu Gln Val Ser
 245 250 255
 Ile Phe Asn Tyr Ser Phe Thr Tyr Gly Ala Leu Val Ala Leu Pro Ser
 260 265 270
 Phe Leu Leu Leu Tyr Ile Tyr Thr Met Ile Tyr Leu Phe Gly Gly
 275 280 285
 Ala Leu Thr Phe Ile Ile Gln Asn Arg Gly Cys Thr Phe Ile Phe Leu
 290 295 300
 Gly Asp Lys Ile Leu Pro Ser Cys Tyr Leu Gln Leu Ile Thr Ser Thr
 305 310 315 320
 Tyr Ile Leu Ala Leu Thr Thr Arg Gln Phe Asn Glu Gly Leu Ser Pro
 325 330 335
 Leu Thr Ala Gln Phe Ile Ala Lys Gln Ser Lys Val Pro Ile Gly Glu
 340 345 350
 Val Ser Gln Cys Leu Asp Val Leu Glu Lys Glu Gly Phe Leu Phe Pro
 355 360 365
 Tyr Asn Asn Gly Tyr Gln Pro Val Phe Asn Phe Ser Glu Leu Thr Ile
 370 375 380
 Lys Asp Ile Ala Asp Lys Leu Leu His Arg Glu Ile Phe Lys Lys Phe
 385 390 395 400
 Asn Pro Asp Leu Gly Ile Thr Phe Ile Glu Asn Ser Phe Gln Asn Ile
 405 410 415
 Phe Asn Gln Ala Ser Lys Asn Lys Glu Asn Leu Thr Leu Ser Glu Ile
 420 425 430
 Ala Arg Arg Ile Lys
 435

<210> 191
 <211> 1145
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0189

<400> 191
 Ala Asn Gln Met Lys Arg Arg Ser Trp Leu Lys Ile Leu Gly Ile Cys
 1 5 10 15
 Leu Gly Ser Ser Ile Val Leu Gly Phe Leu Ile Phe Leu Pro Gln Leu
 20 25 30
 Leu Ser Thr Glu Ser Arg Lys Tyr Leu Val Phe Ser Leu Ile His Lys
 35 40 45
 Glu Ser Gly Leu Ser Cys Ser Ala Glu Glu Leu Lys Ile Ser Trp Phe
 50 55 60
 Gly Arg Gln Thr Ala Arg Lys Ile Lys Leu Thr Gly Glu Ala Lys Asp
 65 70 75 80
 Glu Val Phe Ser Ala Glu Lys Phe Glu Leu Asp Gly Ser Leu Leu Arg
 85 90 95
 Leu Leu Ile Tyr Lys Lys Pro Lys Gly Ile Thr Leu Ser Gly Trp Ser
 100 105 110
 Leu Lys Ile Asn Glu Pro Ala Ser Ile Asp His Pro Ser Val Ser His
 115 120 125
 Leu Asp Pro Gly Ser Leu Leu Thr Tyr Leu Asn Asp Cys Lys Ile Ile
 130 135 140
 Ser Glu His Gly Phe Ile Thr Met Lys Thr Val Ser Gly Ser Ser Leu
 145 150 155 160
 Ser Val Ser Gly Phe Tyr Leu Glu Lys Ser Ser Glu Lys Phe Met Thr
 165 170 175
 Lys Cys Val Val Ser Glu Asp Gln Gln Ser Gly Asn Ile Phe Ile Glu
 180 185 190
 Ser Val Leu Ser Pro Asp Val Ser Ile Ser Ala Gln Phe Ser Ser Val
 195 200 205
 Pro Val Ala Phe Phe Lys Ile Phe Ile Ala Ser Pro Phe Trp Asp His
 210 215 220
 Leu Leu Ser Tyr Glu Asp Ile Ile Asn Leu Ser Ala Glu Ala Thr His
 225 230 235 240
 Thr Asn Asp Gly Lys Ile Ser Met Thr Ala Ser Gly Glu Gly Asn Gln
 245 250 255
 Ile Gln Met Lys Leu Gln Gly His Ile His Lys Ser Thr Phe Tyr Ile
 260 265 270
 Val Glu Gly Ser Ser Ser Phe Ile Glu Leu Lys Pro Glu Leu Ala Ser
 275 280 285
 Ala Leu Cys Asn Gln Ile Ile Pro Leu Ser Thr Pro Ile Thr Ser Lys
 290 295 300
 Gln Ile His Ala Thr Val Ser Tyr Ala Lys Ile Pro Leu Asp Ile Thr
 305 310 315 320
 Lys Trp Lys His Ile Glu Ile Thr Ser Gln Ala Gln Leu Pro Glu Val
 325 330 335
 Ala Ile His Pro Lys Asp Pro Asn Leu Ala Leu Gln Leu Arg Asp Thr
 340 345 350
 Lys Leu Gly Ile Lys Lys Thr Glu Lys Phe Ser Asp Ile Arg Tyr Ser
 355 360 365
 Ser Ser Thr Val Leu Gly Gly Ala Ser Pro Ser His Leu Asn Gly Leu
 370 375 380
 Ile Ser Ile Asp Asn Lys Lys His Leu Thr Lys Phe Arg Leu Gln Gln
 385 390 395 400
 Ala Gln Leu Pro His Thr Tyr Leu Arg Ala Ile Phe Pro Gln Pro Phe
 405 410 415

Val Ile Asn Val Pro Leu Asp Val Ala Tyr Tyr Ser Leu Asn Ile Glu
420 425 430
Gly Thr Tyr Lys Asn Ala His Leu Glu Ala Asp Ala Ile Leu Asp Asn
435 440 445
Pro Leu Leu Lys Leu Ser Cys Ser Met Ser Gly Thr Trp Lys Asn Phe
450 455 460
Leu Phe Lys Gly Gln Gly Thr Tyr His Phe Asn Lys Lys Trp Gln Glu
465 470 475 480
Ile Leu Ser Pro His Phe Ser Tyr Ala Glu Ala Arg Phe Ser Gly Lys
485 490 495
Ala Gln Ile Thr Asp Thr Asn Leu Phe Phe Pro Lys Phe Ser Gly Lys
500 505 510
Ile Thr Ala Arg Glu Asn Glu Leu Leu Ile His Ala Lys Phe Gly Ser
515 520 525
Pro Asn Glu Pro Ile Lys Pro Glu Thr Thr Ser Ile Leu Ile His Gly
530 535 540
Gln Phe Cys Ser Leu Pro Leu Ser Leu Val Ser Asn His Leu Ala Pro
545 550 555 560
Phe His Leu Lys Lys Leu Thr Phe Ser Phe His Thr Asp Gly Gly Lys
565 570 575
Phe Val Thr Lys Gly Asn Leu Gln Ala Leu Ile Glu Asn Pro Asp Tyr
580 585 590
Pro Asp Leu Asn Asn Thr Arg Ile Leu Ile Pro Asp Leu Leu Ser
595 600 605
Leu Asp Glu Ser Ser Thr Ser Pro Ser Ser Lys Asp Leu Lys Ile Gln
610 615 620
Gly Ser Gly Glu Ile Phe Ser Leu Pro Leu Asp Ser Ile Thr Lys Thr
625 630 635 640
Tyr Gly Lys Gln Val Arg Leu Ser Pro Tyr Phe Gly Ser Ser Gly Asp
645 650 655
Leu Asn Phe Val Val Asn Tyr Asn Pro Lys Asp Gln Asn Lys Leu Thr
660 665 670
Leu Leu Ser Asn Phe Lys Ser Glu Ala Leu Leu Gly Glu Leu Lys Leu
675 680 685
Val Met Asp Phe Ser Met Lys Leu Ser Ser Gly Thr Gln Gly Thr Leu
690 695 700
Gln Trp Glu Val Ser Pro Glu Arg Tyr Ala Ser Phe Phe Lys Asn Ala
705 710 715 720
Ser Cys Ser Pro Thr Cys Leu Leu His Arg Thr Ala Asn Val Arg Leu
725 730 735
Asp Ile Ser Lys Leu Ser Cys Pro Glu Glu Thr Lys Gly Leu Ser Cys
740 745 750
Leu Thr Leu Leu Ala Ala Gly Gly Leu Glu Gly Ser Leu Glu Ala Thr
755 760 765
Pro Leu Ile Phe Tyr Asp Asn Val Ser Lys Glu Thr Phe Ile Ile Asn
770 775 780
Asp Phe Lys Gly Ser Leu Arg Ala Asn Asn Leu Asp Ala Lys Ile Glu
785 790 795 800
Tyr Asp Leu Lys Gly Ser Cys Leu Ala Pro Arg Gln Asp Ser Lys Thr
805 810 815
Leu Ala Glu Phe Ser Leu Glu Gly Gln Val Asp His Leu Phe Ser Pro
820 825 830
Glu Ser Arg Glu Phe Lys Gln Thr Ala Asn Trp Ile His Ile Pro Ser
835 840 845
Ser Phe Ile Ala Gly Ile Ile Pro Met Ser Pro Gly Leu Lys Ala Gln
850 855 860
Ile Ser Ser Leu Ala Gly Pro Arg Ile Asn Val Ser Ile Lys Asn Ala
865 870 875 880
Phe Arg Phe Gly Glu Gly Pro Val Asp Ile Met Val Asp Ser Glu Asn
885 890 895

Leu Gln Ala Gln Ile Pro Leu Ile Leu Asn Glu Lys Ser Ile Leu Leu
 900 905 910
 Arg Glu Asn Leu Thr Ala His Leu Ser Ile Asn Glu Asp Val Asn Lys
 915 920 925
 Ala Phe Leu Gln Glu Phe Asn Pro Leu Leu Ala Gly Gly Ala Tyr Ser
 930 935 940
 Gln Tyr Pro Val Thr Leu Glu Ile Asp Lys Gln Asn Phe Tyr Leu Pro
 945 950 955 960
 Ile Arg Pro Tyr Ser Phe Glu Glu Phe Arg Ile Gln Ser Ala Thr Leu
 965 970 975
 Asp Met Gly Lys Ile Ser Ile Ala Asn Thr Gly Thr Met Tyr Ala Leu
 980 985 990
 Phe Gln Phe Leu Asp Ile Thr Asp Gln Lys Gln Phe Val Glu Ser Trp
 995 1000 1005
 Phe Thr Pro Ile Phe Phe Ser Val Gln Lys Gly Ser Ile Ile Cys Lys
 1010 1015 1020
 Arg Leu Asp Ala Leu Ile Asp Arg Arg Ile Arg Leu Ala Leu Trp Gly
 1025 1030 1035 1040
 Lys Thr Asp Ile Ala His Asp Arg Leu Phe Met Thr Leu Gly Ile Asp
 1045 1050 1055
 Pro Glu Val Ile Lys Lys Tyr Phe His Asn Thr Ser Leu Lys Thr Lys
 1060 1065 1070
 Asn Phe Phe Leu Ile Lys Ile Arg Gly Ser Ile Ser Ser Pro Glu Val
 1075 1080 1085
 Asp Trp Ser Ser Ala Tyr Ala Arg Ile Ala Leu Leu Lys Ser Tyr Ser
 1090 1095 1100
 Leu Gly Asn Pro Phe Ser Ser Leu Ala Asp Lys Leu Phe Ser Ser Leu
 1105 1110 1115 1120
 Gly Asp Ser Thr Pro Pro Pro Thr Val His Pro Phe Pro Trp Glu Lys
 1125 1130 1135
 Ser Asn Phe Asp Ser Ile Glu Asn Lys
 1140 1145

<210> 192
 <211> 458
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0190

<400> 192
 Leu Leu Gly Ile Lys Leu Met Arg Lys Arg His Ser Phe Asp Ser Thr
 1 5 10 15
 Ser Thr Lys Lys Glu Ala Val Ser Lys Ala Ile Gln Lys Ile Ile Lys
 20 25 30
 Ile Met Glu Thr Thr Asp Pro Ser Leu Asn Val Glu Thr Pro Asn Ala
 35 40 45
 Glu Ile Glu Ser Ile Leu Gln Glu Ile Lys Glu Ile Lys Gln Lys Leu
 50 55 60
 Ser Lys Gln Ala Glu Asp Leu Gly Leu Leu Glu Lys Tyr Cys Ser Gln
 65 70 75 80
 Glu Thr Leu Ser Asn Leu Glu Asn Thr Asn Ala Ser Leu Lys Leu Ser
 85 90 95
 Ile Gly Ser Val Ile Glu Glu Leu Ala Ser Leu Lys Gln Leu Val Glu
 100 105 110
 Glu Ser Ile Glu Glu Ser Leu Gly Gln Gln Asp Gln Leu Ile Gln Ser
 115 120 125
 Val Leu Ile Glu Ile Ser Asp Lys Phe Leu Ser Ser Ile Gly Glu Thr
 130 135 140

Leu Ser Gly Asn Leu Asp Met Asn Gln Asn Val Ile Gln Gly Leu Leu
 145 150 155 160
 Ile Lys Glu Asn Pro Glu Lys Ser Glu Ala Ala Ser Val Gly Tyr Val
 165 170 175
 Gln Thr Leu Leu Glu Pro Leu Ser Lys Arg Ile Gly Glu Thr His Lys
 180 185 190
 Lys Val Ala Thr His Asp Val Asn Ile Ser Ser Leu Gln Phe His Met
 195 200 205
 Met Ser Val Ala Gly Gly Arg Phe Arg Gly His Ile Asp Met Asn Gly
 210 215 220
 Tyr Arg Val Leu Gly Leu Gly Glu Pro Lys Asn Gly Glu Asp Ala Val
 225 230 235 240
 Ser Lys Asp Tyr Leu Glu Arg Tyr Val Ser Ser Gln Leu Thr Ile Asp
 245 250 255
 Lys Val Glu Asp Lys Pro Ile Thr Lys Pro Asn Lys Gly Lys Leu Leu
 260 265 270
 Tyr Ser Gln Gly Thr Ser Pro Lys Leu Glu Ser Pro Leu Pro Leu Gly
 275 280 285
 Leu Leu Thr Ser Gly Ile Ser Gly Phe Thr Trp Lys Ser Ala Ser Lys
 290 295 300
 Ser Asn Asp Gly Ser Phe Pro Phe Ser Ala Leu Arg His Lys Glu Thr
 305 310 315 320
 Glu Ser Asp Thr Asp Cys Phe Gln Ile Thr Ser Thr Thr Leu Ser Gly
 325 330 335
 Asn Gln Ala Gly Thr Tyr Thr Trp Ser Leu Ser Leu Lys Val Leu Val
 340 345 350
 Pro Ser Ile Phe Gln Ile Glu Lys Pro Glu Val Gln Leu Ser Leu Val
 355 360 365
 Tyr Ser Tyr Glu Asp Trp Leu Pro Ile Asp Asn Ile Phe Asn Met Ser
 370 375 380
 Gln Pro Arg Thr Ile Pro Leu Ala Leu Leu Gly Gln Thr Met Leu Ala
 385 390 395 400
 Gly Gln Lys Tyr Asp Ile Leu Glu Leu Ala Ala His Gln Thr Asn Gln
 405 410 415
 Thr Leu Met Ile Ser Pro Asn Cys Ser Arg Phe Ser Leu Gln Leu Lys
 420 425 430
 Gln Thr Asn Gln Phe Glu Asn Ser Pro Val Asp Phe Tyr Ile Val His
 435 440 445
 Ala Ala His Ser Cys His Trp Ser Gly Phe
 450 455

<210> 193
 <211> 242
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0191

<400> 193

Gln His His Phe Pro Val Phe Leu Gly Tyr Gln Lys Arg Glu Gly Val
 1 5 10 15
 Met Thr Ile Arg Val Arg Asn Leu Ala Tyr Ser Val Asn Lys Lys Lys
 20 25 30
 Ile Leu Asp Gly Val Thr Phe Ser Leu Glu Arg Gly His Ile Thr Leu
 35 40 45
 Phe Val Gly Lys Ser Gly Ser Gly Lys Thr Met Ile Leu Arg Ala Leu
 50 55 60
 Ala Gly Leu Val Gln Pro Thr Gln Gly Asp Ile Trp Ile Glu Gly Glu
 65 70 75 80

<210> 195
 <211> 153
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0193

<400> 195
 Lys Leu His Gly Val Phe Met Lys Lys Lys Val Thr Ile Asp Glu Ala
 1 5 10 15
 Leu Lys Glu Ile Leu Arg Leu Glu Gly Ala Ala Thr Gln Glu Leu
 20 25 30
 Cys Ala Lys Leu Leu Ala Gln Gly Phe Ala Thr Thr Gln Ser Ser Val
 35 40 45
 Ser Arg Trp Leu Arg Lys Ile Gln Ala Val Lys Val Ala Gly Glu Arg
 50 55 60
 Gly Ala Arg Tyr Ser Leu Pro Ser Ser Thr Glu Lys Thr Thr Thr Arg
 65 70 75 80
 His Leu Val Leu Ser Ile Arg His Asn Ala Ser Leu Ile Val Ile Arg
 85 90 95
 Thr Val Pro Gly Ser Ala Ser Trp Ile Ala Ala Leu Leu Asp Gln Gly
 100 105 110
 Leu Lys Asp Glu Ile Leu Gly Thr Leu Ala Gly Asp Asp Thr Ile Phe
 115 120 125
 Val Thr Pro Ile Asp Glu Gly Arg Leu Pro Leu Leu Met Val Ser Ile
 130 135 140
 Ala Asn Leu Leu Gln Val Phe Leu Asp
 145 150

<210> 196
 <211> 360
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0194

<400> 196
 Glu Val Pro His Thr Ile Lys Gly Asn Val Phe Phe Ser Trp Phe Phe
 1 5 10 15
 Met Leu Thr Leu Gly Leu Glu Ser Ser Cys Asp Glu Thr Ala Cys Ala
 20 25 30
 Ile Val Asn Glu Asp Lys Gln Ile Leu Ala Asn Ile Ile Ala Ser Gln
 35 40 45
 Asp Ile His Ala Ser Tyr Gly Gly Val Val Pro Glu Leu Ala Ser Arg
 50 55 60
 Ala His Leu His Ile Phe Pro Gln Val Ile Asn Lys Ala Leu Gln Gln
 65 70 75 80
 Ala Asn Leu Leu Ile Glu Asp Met Asp Leu Ile Ala Val Thr Gln Thr
 85 90 95
 Pro Gly Leu Ile Gly Ser Leu Ser Val Gly Val His Phe Gly Lys Gly
 100 105 110
 Ile Ala Ile Gly Ala Lys Lys Ser Leu Ile Gly Val Asn His Val Glu
 115 120 125
 Ala His Leu Tyr Ala Ala Tyr Met Ala Ala Gln Asn Val Gln Phe Pro
 130 135 140
 Ala Leu Gly Leu Val Val Ser Gly Ala His Thr Ala Ala Phe Phe Ile
 145 150 155 160
 Glu Asn Pro Thr Ser Tyr Lys Leu Ile Gly Lys Thr Arg Asp Asp Ala
 165 170 175

Ser Gly Ala Phe Tyr Pro Lys Asn Ile Lys Gln Lys Gln Trp Ile Lys
 210 215 220
 Leu Ser Lys Asn Pro His Tyr Tyr Asn Gln Ser Gln Val Glu Thr Lys
 225 230 235 240
 Thr Ile Thr Ile His Phe Ile Pro Asp Ala Asn Thr Ala Ala Lys Leu
 245 250 255
 Phe Asn Gln Gly Lys Leu Asn Trp Gln Gly Pro Pro Trp Gly Glu Arg
 260 265 270
 Ile Pro Gln Glu Thr Leu Ser Asn Leu Gln Ser Lys Gly His Leu His
 275 280 285
 Ser Phe Asp Val Ala Gly Thr Ser Trp Leu Thr Phe Asn Ile Asn Lys
 290 295 300
 Phe Pro Leu Asn Asn Met Lys Leu Arg Glu Ala Leu Ala Ser Ala Leu
 305 310 315 320
 Asp Lys Glu Ala Leu Val Ser Thr Ile Phe Leu Gly Arg Ala Lys Thr
 325 330 335
 Ala Asp His Leu Leu Pro Thr Asn Ile His Ser Tyr Pro Glu His Gln
 340 345 350
 Lys Gln Glu Met Ala Gln Arg Gln Ala Tyr Ala Lys Lys Leu Phe Lys
 355 360 365
 Glu Ala Leu Glu Glu Leu Gln Ile Thr Ala Lys Asp Leu Glu His Leu
 370 375 380
 Asn Leu Ile Phe Pro Val Ser Ser Ser Ala Ser Ser Leu Leu Val Gln
 385 390 395 400
 Leu Ile Arg Glu Gln Trp Lys Glu Ser Leu Gly Phe Ala Ile Pro Ile
 405 410 415
 Val Gly Lys Glu Phe Ala Leu Leu Gln Ala Asp Leu Ser Ser Gly Asn
 420 425 430
 Phe Ser Leu Ala Thr Gly Gly Trp Phe Ala Asp Phe Ala Asp Pro Met
 435 440 445
 Ala Phe Leu Thr Ile Phe Ala Tyr Pro Ser Gly Val Pro Pro Tyr Ala
 450 455 460
 Ile Asn His Lys Asp Phe Leu Glu Ile Leu Gln Asn Ile Glu Gln Glu
 465 470 475 480
 Gln Asp His Gln Lys Arg Ser Glu Leu Val Ser Gln Ala Ser Leu Tyr
 485 490 495
 Leu Glu Thr Phe His Ile Ile Glu Pro Ile Tyr His Asp Ala Phe Gln
 500 505 510
 Phe Ala Met Asn Lys Lys Leu Ser Asn Leu Gly Val Ser Pro Thr Gly
 515 520 525
 Val Val Asp Phe Arg Tyr Ala Lys Glu Asn
 530 535

<210> 198
 <211> 538
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0196

<400> 198
 Lys Leu Lys Ser Tyr Ser Lys Glu Arg Ser Phe Met Leu Arg Phe Phe
 1 5 10 15
 Ala Val Phe Ile Ser Thr Leu Trp Leu Ile Thr Ser Gly Cys Ser Pro
 20 25 30
 Ser Gln Ser Ser Lys Gly Ile Phe Val Val Asn Met Lys Glu Met Pro
 35 40 45
 Arg Ser Leu Asp Pro Gly Lys Thr Arg Leu Ile Ala Asp Gln Thr Leu
 50 55 60

Met	Arg	His	Leu	Tyr	Glu	Gly	Leu	Val	Glu	Glu	His	Ser	Gln	Asn	Gly	65	70	75	80
Glu	Ile	Lys	Pro	Ala	Leu	Ala	Glu	Ser	Tyr	Thr	Ile	Ser	Glu	Asp	Gly		85	90	95
Thr	Arg	Tyr	Thr	Phe	Lys	Ile	Lys	Asn	Ile	Leu	Trp	Ser	Asn	Gly	Asp	100	105	110	
Pro	Leu	Thr	Ala	Gln	Asp	Phe	Val	Ser	Ser	Trp	Lys	Glu	Ile	Leu	Lys	115	120	125	
Glu	Asp	Ala	Ser	Ser	Val	Tyr	Leu	Tyr	Ala	Phe	Leu	Pro	Ile	Lys	Asn	130	135	140	
Ala	Arg	Ala	Ile	Phe	Asp	Asp	Thr	Glu	Ser	Pro	Glu	Asn	Leu	Gly	Val	145	150	155	160
Arg	Ala	Leu	Asp	Lys	Arg	His	Leu	Glu	Ile	Gln	Leu	Glu	Thr	Pro	Cys	165	170	175	
Ala	His	Phe	Leu	His	Phe	Leu	Thr	Leu	Pro	Ile	Phe	Phe	Pro	Val	His	180	185	190	
Glu	Thr	Leu	Arg	Asn	Tyr	Ser	Thr	Ser	Phe	Glu	Glu	Met	Pro	Ile	Thr	195	200	205	
Cys	Gly	Ala	Phe	Arg	Pro	Val	Ser	Leu	Glu	Lys	Gly	Leu	Arg	Leu	His	210	215	220	
Leu	Glu	Lys	Asn	Pro	Met	Tyr	His	Asn	Lys	Ser	Arg	Val	Lys	Leu	His	225	230	235	240
Lys	Ile	Ile	Val	Gln	Phe	Ile	Ser	Asn	Ala	Asn	Thr	Ala	Ala	Ile	Leu	245	250	255	
Phe	Lys	His	Lys	Lys	Leu	Asp	Trp	Gln	Gly	Pro	Pro	Trp	Gly	Glu	Pro	260	265	270	
Ile	Pro	Pro	Glu	Ile	Ser	Ala	Ser	Leu	His	Gln	Asp	Asp	Gln	Leu	Phe	275	280	285	
Ser	Leu	Pro	Gly	Ala	Ser	Thr	Thr	Trp	Leu	Leu	Phe	Asn	Ile	Gln	Lys	290	295	300	
Lys	Pro	Trp	Asn	Asn	Ala	Lys	Leu	Arg	Lys	Ala	Leu	Ser	Leu	Ala	Ile	305	310	315	320
Asp	Lys	Asp	Met	Leu	Thr	Lys	Val	Val	Tyr	Gln	Gly	Leu	Ala	Glu	Pro	325	330	335	
Thr	Asp	His	Ile	Leu	His	Pro	Arg	Leu	Tyr	Pro	Gly	Thr	Tyr	Pro	Glu	340	345	350	
Arg	Lys	Arg	Gln	Asn	Glu	Arg	Ile	Leu	Glu	Ala	Gln	Gln	Leu	Phe	Glu	355	360	365	
Glu	Ala	Leu	Asp	Glu	Leu	Gln	Met	Thr	Arg	Glu	Asp	Leu	Glu	Lys	Glu	370	375	380	
Thr	Leu	Thr	Phe	Ser	Thr	Phe	Ser	Phe	Ser	Tyr	Gly	Arg	Ile	Cys	Gln	385	390	395	400
Met	Leu	Arg	Glu	Gln	Trp	Lys	Lys	Val	Leu	Lys	Phe	Thr	Ile	Pro	Ile	405	410	415	
Val	Gly	Gln	Glu	Phe	Phe	Thr	Ile	Gln	Lys	Asn	Phe	Leu	Glu	Gly	Asn	420	425	430	
Tyr	Ser	Leu	Thr	Val	Asn	Gln	Trp	Thr	Ala	Ala	Phe	Ile	Asp	Pro	Met	435	440	445	
Ser	Tyr	Leu	Met	Ile	Phe	Ala	Asn	Pro	Gly	Gly	Ile	Ser	Pro	Tyr	His	450	455	460	
Leu	Gln	Asp	Ser	His	Phe	Gln	Thr	Leu	Leu	Ile	Lys	Ile	Thr	Gln	Glu	465	470	475	480
His	Lys	Lys	His	Leu	Arg	Asn	Gln	Leu	Ile	Ile	Glu	Ala	Leu	Asp	Tyr	485	490	495	
Leu	Glu	His	Cys	His	Ile	Leu	Glu	Pro	Leu	Cys	His	Pro	Asn	Leu	Arg	500	505	510	
Ile	Ala	Leu	Asn	Lys	Asn	Ile	Lys	Asn	Phe	Asn	Leu	Phe	Val	Arg	Arg	515	520	525	
Thr	Ser	Asp	Phe	Arg	Phe	Ile	Glu	Lys	Leu							530	535		

<210> 199
 <211> 457
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0197

<400> 199
 Lys Asn Tyr Arg Arg Lys Ser Leu Asp Leu Lys Phe Asp Ser Lys Phe
 1 5 10 15
 Ile Lys Val Ile Phe Lys Met Phe Ser Arg Trp Ile Thr Leu Phe Leu
 20 25 30
 Leu Phe Ile Ser Leu Thr Gly Cys Ser Ser Tyr Ser Ser Lys His Lys
 35 40 45
 Gln Ser Leu Ile Ile Pro Ile His Asp Asp Pro Val Ala Phe Ser Pro
 50 55 60
 Glu Gln Ala Lys Arg Ala Met Asp Leu Ser Ile Ala Gln Leu Leu Phe
 65 70 75 80
 Asp Gly Leu Thr Arg Glu Thr His Arg Glu Ser Asn Asp Leu Glu Leu
 85 90 95
 Ala Ile Ala Ser Arg Tyr Thr Val Ser Glu Asp Phe Cys Ser Tyr Thr
 100 105 110
 Phe Phe Ile Lys Asp Ser Ala Leu Trp Ser Asp Gly Thr Pro Ile Thr
 115 120 125
 Ser Glu Asp Ile Arg Asn Ala Trp Glu Tyr Ala Gln Glu Asn Ser Pro
 130 135 140
 His Ile Gln Ile Phe Gln Gly Leu Asn Phe Ser Thr Pro Ser Ser Asn
 145 150 155 160
 Ala Ile Thr Ile His Leu Asp Ser Pro Asn Pro Asp Phe Pro Lys Leu
 165 170 175
 Leu Ala Phe Pro Ala Phe Ala Ile Phe Lys Pro Glu Asn Pro Lys Leu
 180 185 190
 Phe Ser Gly Pro Tyr Thr Leu Val Glu Tyr Phe Pro Gly His Asn Ile
 195 200 205
 His Leu Lys Lys Asn Pro Asn Tyr Tyr Asp Tyr His Cys Val Ser Ile
 210 215 220
 Asn Ser Ile Lys Leu Leu Ile Ile Pro Asp Ile Tyr Thr Ala Ile His
 225 230 235 240
 Leu Leu Asn Arg Gly Lys Val Asp Trp Val Gly Gln Pro Trp His Gln
 245 250 255
 Gly Ile Pro Trp Glu Leu His Lys Gln Ser Gln Tyr His Tyr Tyr Thr
 260 265 270
 Tyr Pro Val Glu Gly Ala Phe Trp Leu Cys Leu Asn Thr Lys Ser Pro
 275 280 285
 His Leu Asn Asp Leu Gln Asn Arg His Arg Leu Ala Thr Cys Ile Asp
 290 295 300
 Lys Arg Ser Ile Ile Glu Glu Ala Leu Gln Gly Thr Gln Gln Pro Ala
 305 310 315 320
 Glu Thr Leu Ser Arg Gly Ala Pro Gln Pro Asn Gln Tyr Lys Lys Gln
 325 330 335
 Lys Pro Leu Thr Pro Gln Glu Lys Leu Val Leu Thr Tyr Pro Ser Asp
 340 345 350
 Ile Leu Arg Cys Gln Arg Ile Ala Glu Ile Leu Lys Glu Gln Trp Lys
 355 360 365
 Ala Ala Gly Ile Asp Leu Ile Leu Glu Gly Leu Glu Tyr His Leu Phe
 370 375 380
 Val Asn Lys Arg Lys Val Gln Asp Tyr Ala Ile Ala Thr Gln Thr Gly
 385 390 395 400
 Val Ala Tyr Tyr Pro Gly Ala Asn Leu Ile Ser Glu Glu Asp Lys Leu
 405 410 415

Leu Gln Asn Phe Glu Ile Ile Pro Ile Tyr Tyr Leu Ser Tyr Asp Tyr
 420 425 430
 Leu Thr Gln Asp Phe Ile Glu Gly Val Ile Tyr Asn Ala Ser Gly Ala
 435 440 445
 Val Asp Leu Lys Tyr Thr Tyr Phe Pro
 450 455

<210> 200
 <211> 534
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0198

<400> 200
 Gln Ile Glu Tyr Tyr Ile Met Lys Met His Arg Leu Lys Pro Thr Leu
 1 5 10 15
 Lys Ser Leu Ile Pro Asn Leu Leu Phe Leu Leu Thr Leu Ser Ser
 20 25 30
 Cys Ser Lys Gln Lys Gln Glu Pro Leu Gly Lys His Leu Val Ile Ala
 35 40 45
 Met Ser His Asp Leu Ala Asp Leu Asp Pro Arg Asn Ala Tyr Leu Ser
 50 55 60
 Arg Asp Ala Ser Leu Ala Lys Ala Leu Tyr Glu Gly Leu Thr Arg Glu
 65 70 75 80
 Thr Asp Gln Gly Ile Ala Leu Ala Leu Ala Glu Ser Tyr Thr Leu Ser
 85 90 95
 Lys Asp His Lys Val Tyr Thr Phe Lys Leu Arg Pro Ser Val Trp Ser
 100 105 110
 Asp Gly Thr Pro Leu Thr Ala Tyr Asp Phe Glu Lys Ser Ile Lys Gln
 115 120 125
 Leu Tyr Phe Glu Glu Phe Ser Pro Ser Ile His Thr Leu Leu Gly Val
 130 135 140
 Ile Lys Asn Ser Ser Ala Ile His Asn Ala Gln Lys Ser Leu Glu Thr
 145 150 155 160
 Leu Gly Ile Gln Ala Lys Asp Asp Leu Thr Leu Val Ile Thr Leu Glu
 165 170 175
 Gln Pro Phe Pro Tyr Phe Leu Thr Leu Ile Ala Arg Pro Val Phe Ser
 180 185 190
 Pro Val His His Thr Leu Arg Glu Ser Tyr Lys Lys Gly Thr Pro Pro
 195 200 205
 Ser Thr Tyr Ile Ser Asn Gly Pro Phe Val Leu Lys Lys His Glu His
 210 215 220
 Gln Asn Tyr Leu Ile Leu Glu Lys Asn Pro His Tyr Tyr Asp His Glu
 225 230 235 240
 Ser Val Lys Leu Asp Arg Val Thr Leu Lys Ile Ile Pro Asp Ala Ser
 245 250 255
 Thr Ala Thr Lys Leu Phe Lys Ser Lys Ser Ile Asp Trp Ile Gly Ser
 260 265 270
 Pro Trp Ser Ala Pro Ile Ser Asn Glu Asp Gln Lys Val Leu Ser Gln
 275 280 285
 Glu Lys Ile Leu Thr Tyr Ser Val Ser Ser Thr Thr Leu Leu Ile Tyr
 290 295 300
 Asn Leu Gln Lys Pro Leu Ile Gln Asn Lys Ala Leu Arg Lys Ala Ile
 305 310 315 320
 Ala His Ala Ile Asp Arg Lys Ser Ile Leu Arg Leu Val Pro Ser Gly
 325 330 335
 Gln Glu Ala Val Thr Leu Val Pro Pro Asn Leu Ser Gln Leu Asn Leu
 340 345 350

Gln Lys Glu Ile Ser Thr Glu Glu Arg Gln Thr Lys Ala Arg Ala Tyr
 355 360 365
 Phe Gln Glu Ala Lys Glu Thr Leu Ser Glu Lys Glu Leu Ala Glu Leu
 370 375 380
 Ser Ile Leu Tyr Pro Ile Asp Ser Ser Asn Ser Ser Ile Ile Ala Gln
 385 390 395 400
 Glu Ile Gln Arg Gln Leu Lys Asp Thr Leu Gly Leu Lys Ile Lys Ile
 405 410 415
 Gln Gly Met Glu Tyr His Cys Phe Leu Lys Lys Arg Arg Gln Gly Asp
 420 425 430
 Phe Phe Ile Ala Thr Gly Gly Trp Ile Ala Glu Tyr Val Ser Pro Val
 435 440 445
 Ala Phe Leu Ser Ile Leu Gly Asn Pro Arg Asp Leu Thr Gln Trp Arg
 450 455 460
 Asn Ser Asp Tyr Glu Lys Thr Leu Glu Lys Leu Tyr Leu Pro His Ala
 465 470 475 480
 Tyr Lys Glu Asn Leu Lys Arg Ala Glu Met Ile Ile Glu Glu Glu Thr
 485 490 495
 Pro Ile Ile Pro Leu Tyr His Gly Lys Tyr Ile Tyr Ala Ile His Pro
 500 505 510
 Lys Ile Gln Asn Thr Phe Gly Ser Leu Leu Gly His Thr Asp Leu Lys
 515 520 525
 Asn Ile Asp Ile Leu Ser
 530

<210> 201
 <211> 322
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0199

<400> 201
 Lys Cys Leu Ile Gly Leu Ser Leu Val Phe Ser Tyr Ile Lys Asn Arg
 1 5 10 15
 Ile Leu Phe Asn Leu Leu Ser Leu Trp Ile Val Leu Thr Leu Thr Phe
 20 25 30
 Leu Val Met Lys Thr Ile Pro Gly Asp Pro Phe Asn Asp Glu Gly Cys
 35 40 45
 Asn Val Leu Ser Glu Glu Val Leu Gln Thr Leu Lys Ser Arg Tyr Gly
 50 55 60
 Leu Asp Lys Pro Leu Tyr Gln Gln Tyr Thr Gln Tyr Leu His Ser Ile
 65 70 75 80
 Ala Lys Leu Asp Phe Gly Asn Ser Leu Val Tyr Lys Asp Arg Lys Val
 85 90 95
 Thr Asn Ile Ile Ser Thr Ala Phe Pro Ile Ser Ala Ile Leu Gly Leu
 100 105 110
 Gln Ser Leu Phe Leu Ser Ile Gly Gly Gly Ile Ala Leu Gly Thr Ile
 115 120 125
 Ala Ala Leu Lys Lys Lys Lys Gln Arg Arg Tyr Ile Leu Gly Ala Ser
 130 135 140
 Ile Leu Gln Ile Ser Ile Pro Ala Phe Ile Phe Ala Thr Leu Leu Gln
 145 150 155 160
 Tyr Val Phe Ala Val Lys Ile Pro Leu Leu Pro Ile Ala Cys Trp Gly
 165 170 175
 Ser Phe Thr His Thr Ile Leu Pro Thr Leu Ala Leu Ala Val Thr Pro
 180 185 190
 Met Ala Phe Ile Ile Gln Leu Thr Tyr Ser Ser Val Ser Ala Ala Leu
 195 200 205

Asn	Lys	Asp	Tyr	Val	Leu	Leu	Ala	Tyr	Ala	Lys	Gly	Leu	Ser	Pro	Leu
210						215					220				
Lys	Val	Val	Ile	Lys	His	Ile	Leu	Pro	Tyr	Ala	Ile	Phe	Pro	Thr	Ile
225					230					235					240
Ser	Tyr	Ser	Ala	Phe	Leu	Thr	Thr	Thr	Val	Ile	Thr	Gly	Thr	Phe	Ala
				245					250					255	
Ile	Glu	Asn	Ile	Phe	Cys	Ile	Pro	Gly	Leu	Gly	Lys	Trp	Phe	Ile	Cys
			260					265					270		
Ser	Ile	Lys	Gln	Arg	Asp	Tyr	Pro	Val	Ala	Leu	Gly	Leu	Ser	Val	Phe
		275					280						285		
Tyr	Gly	Thr	Leu	Phe	Met	Leu	Ser	Ser	Leu	Leu	Ser	Asp	Leu	Ile	Gln
290						295					300				
Ser	Ile	Ile	Asp	Pro	Gln	Ile	Arg	Tyr	Ala	His	Gly	Lys	Glu	Lys	Lys
305					310					315					320
Arg	Lys														

<210> 202
 <211> 291
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0200

<400> 202															
Glu	Lys	Lys	Lys	His	Lys	Leu	Met	Glu	Asn	Leu	Ser	Ser	Ala	Pro	Ser
1				5					10					15	
Arg	Ser	Ile	Trp	Lys	Ser	Ile	Ile	Gln	Asn	Lys	Met	Leu	Val	Leu	Gly
			20					25					30		
Leu	Thr	Thr	Leu	Ile	Ile	Leu	Met	Leu	Gly	Ala	Leu	Leu	Leu	Pro	Trp
		35				40						45			
Phe	Tyr	Gln	Asp	Tyr	Glu	Gln	Thr	Ser	Leu	Lys	Asp	Ile	Leu	Val	Ser
50					55						60				
Pro	Cys	Ser	Arg	Phe	Pro	Phe	Gly	Thr	Asp	Thr	Leu	Gly	Arg	Cys	Met
65					70					75				80	
Phe	Ala	Arg	Thr	Leu	Arg	Gly	Leu	Arg	Leu	Ser	Leu	Leu	Ile	Ala	Thr
				85					90					95	
Ile	Ala	Thr	Leu	Ile	Asp	Val	Cys	Val	Gly	Leu	Leu	Trp	Ala	Thr	Val
			100					105					110		
Ala	Ile	Ser	Gly	Gly	Lys	Lys	Ile	Asp	Phe	Leu	Met	Met	Arg	Thr	Thr
		115					120					125			
Glu	Ile	Leu	Phe	Ser	Leu	Pro	Arg	Ile	Pro	Ile	Ile	Ile	Leu	Leu	Leu
130						135					140				
Val	Ile	Phe	His	His	Gly	Leu	Leu	Pro	Leu	Ile	Leu	Ala	Met	Thr	Ile
145				150						155				160	
Thr	Gly	Trp	Ile	Pro	Ile	Ser	Arg	Ile	Ile	Tyr	Gly	Gln	Phe	Leu	Leu
				165					170					175	
Leu	Lys	Asn	Lys	Pro	Phe	Val	Leu	Ser	Ala	Lys	Ala	Met	His	Ala	Ser
			180					185					190		
Thr	Phe	His	Ile	Leu	Lys	Lys	His	Leu	Leu	Pro	Asn	Thr	Leu	Ala	Pro
		195					200					205			
Ile	Ile	Ser	Thr	Leu	Ile	Phe	Thr	Ile	Pro	Asn	Ala	Ile	Tyr	Thr	Glu
	210					215					220				
Ala	Phe	Ile	Ser	Phe	Leu	Gly	Leu	Gly	Ile	Gln	Pro	Pro	Gln	Ala	Ser
225					230					235				240	
Leu	Gly	Thr	Leu	Val	Lys	Glu	Gly	Ile	Asn	Ala	Ile	Asp	Tyr	Tyr	Pro
				245					250					255	
Trp	Leu	Phe	Phe	Phe	Pro	Ser	Leu	Ile	Met	Ile	Ala	Leu	Ser	Ile	Ser
			260					265					270		

Phe Asn Leu Ile Gly Glu Gly Ala Lys Thr Leu Cys Leu Glu Glu Gly
 275 280 285
 Ser His Gly
 290

<210> 203
 <211> 302
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0201

<400> 203
 Ala Ser Ile Ser Ser Ala Arg Gly Leu Lys His Tyr Val Ser Lys Arg
 1 5 10 15
 Asp Leu Met Asp Asn Tyr Leu Leu Asn Ile Lys Asp Leu Thr Ile Thr
 20 25 30
 Ser Thr Asn Pro Lys Arg Thr Leu Ile Glu Asn Leu Ser Leu Gln Leu
 35 40 45
 Lys Glu Asn Arg Asn Leu Ala Leu Val Gly Glu Ser Gly Ser Gly Lys
 50 55 60
 Thr Thr Ile Thr Lys Ala Ile Leu Gly Phe Leu Pro Glu Asn Cys Leu
 65 70 75 80
 Ile Lys Thr Gly Ser Ile Leu Phe Glu Asp Ile Asp Ile Thr Lys Leu
 85 90 95
 Ser Pro Lys Glu Leu His Lys Ile Arg Gly Gln Lys Ile Ala Thr Ile
 100 105 110
 Leu Gln Asn Ala Met Gly Ser Leu Thr Pro Ser Met Arg Ile Gly Met
 115 120 125
 Gln Ile Ile Glu Thr Leu Arg Gln His His Lys Met Asn Lys Glu Glu
 130 135 140
 Ala Tyr Asn Lys Ala Met Gln Leu Leu Thr Asp Val Cys Ile Pro Asn
 145 150 155 160
 Pro Lys Tyr Ser Phe Ser Gln Tyr Pro Phe Glu Leu Ser Gly Gly Met
 165 170 175
 Arg Gln Arg Val Val Ile Ala Ile Ala Leu Ala Ser Gln Pro Lys Leu
 180 185 190
 Ile Leu Ala Asp Glu Pro Thr Thr Ala Leu Asp Ser Met Ser Gln Ala
 195 200 205
 Gln Val Leu Arg Ile Leu Arg Asn Ile Gln Gln Gln Lys Gln Ala Thr
 210 215 220
 Ile Leu Leu Val Thr His Asn Leu Ser Leu Val Lys Glu Leu Cys Asn
 225 230 235 240
 Asp Ile Cys Ile Ile Lys Asp Gly Lys Leu Ile Glu Thr Gly Thr Val
 245 250 255
 Glu Glu Ile Phe Leu Ser Pro Lys His Pro Tyr Thr Leu Lys Leu Leu
 260 265 270
 Asn Ala Val Ser Lys Ile Pro Ile Lys Lys Thr Ser Ser Pro Ile Leu
 275 280 285
 Lys Asn Lys Phe Gln Pro Leu Met Ser Met Gln Gly Gly Leu
 290 295 300

<210> 204
 <211> 273
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0202

<400> 204

Val	Pro	Thr	Ser	Asn	Glu	Tyr	Ala	Arg	Trp	Phe	Met	Thr	Thr	Leu	Leu
1				5					10					15	
Ser	Ile	Lys	Asp	Leu	Ser	Leu	Thr	Ile	Arg	Gly	Lys	Lys	Ile	Leu	Asn
			20					25					30		
His	Ile	Asn	Leu	Asn	Leu	Ile	Lys	Gly	Ser	Tyr	Leu	Thr	Ile	Val	Gly
		35					40					45			
Pro	Ser	Gly	Ser	Gly	Lys	Ser	Ser	Leu	Ala	Leu	Thr	Ile	Leu	Asp	Leu
	50					55					60				
Leu	Lys	Pro	Thr	Thr	Gly	Thr	Ile	Thr	Phe	His	Met	Asp	Pro	Lys	Ile
65					70					75					80
Pro	Arg	Ala	Arg	Lys	Val	Gln	Val	Ile	Trp	Gln	Asp	Ile	Asp	Ser	Ser
				85					90					95	
Leu	Asn	Pro	Cys	Met	Ser	Ile	Lys	Gly	Ile	Ile	Ser	Glu	Pro	Leu	Asn
			100					105					110		
Ile	Ile	Gly	Thr	Tyr	Ser	Lys	Ala	Glu	Gln	Asn	Lys	Glu	Ile	Tyr	Asn
		115					120					125			
Val	Leu	Asp	Leu	Val	Asn	Leu	Pro	Lys	Ser	Val	Leu	His	Leu	Lys	Pro
	130					135					140				
Tyr	Lys	Leu	Ser	Gly	Gly	Gln	Lys	Gln	Arg	Ile	Ala	Ile	Ala	Lys	Ala
145					150					155					160
Leu	Val	Ser	Lys	Pro	Glu	Leu	Leu	Ile	Cys	Asp	Glu	Pro	Leu	Ser	Ser
				165					170					175	
Leu	Asp	Thr	Leu	Asn	Gln	Ser	Leu	Ile	Leu	Asp	Leu	Phe	Gln	Thr	Ile
			180					185					190		
Lys	Lys	Glu	Tyr	Gln	Asn	Thr	Leu	Leu	Phe	Ile	Thr	His	Asp	Met	Ser
		195					200					205			
Ala	Ala	Tyr	Tyr	Ile	Ala	Asp	Thr	Ile	Ala	Val	Met	Asp	Gln	Gly	Ser
	210					215					220				
Leu	Val	Glu	His	Ala	Cys	Arg	Glu	Lys	Ile	Phe	Ser	Thr	Pro	Lys	His
225					230					235					240
Thr	Thr	Thr	Gln	Asp	Leu	Leu	Asp	Ala	Ile	Pro	Ile	Phe	Ser	Leu	Ile
				245					250					255	
Ser	Thr	Glu	Met	Glu	Pro	Ser	Glu	Glu	Tyr	Glu	Leu	Gln	Val	Ala	Ser
			260					265					270		

Lys

<210> 205
 <211> 279
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0203

<400> 205

Ile	Val	Pro	Leu	Pro	Gln	Lys	Asn	Asn	Lys	Glu	Thr	Ser	Cys	Met	Asn
1				5					10					15	
Thr	Tyr	Thr	Phe	Ser	Pro	Thr	Leu	Gln	Lys	Ser	Phe	Ser	Leu	Phe	Leu
			20					25					30		
Leu	Glu	Lys	Leu	Asp	Ser	Tyr	Phe	Phe	Phe	Gly	Gly	Thr	Arg	Thr	Gln
		35					40					45			
Ile	Leu	Val	Ile	Thr	Pro	Thr	Asn	Ile	Arg	Leu	Ala	Ala	Lys	Lys	Arg
	50					55					60				
Gly	Cys	Lys	Val	Ser	Thr	Ile	Glu	Lys	Ile	Ile	Lys	Ile	Leu	Ser	Phe
65					70					75					80
Ile	Leu	Leu	Pro	Leu	Val	Ile	Ile	Ala	Phe	Ile	Leu	Arg	Tyr	Phe	Leu
				85					90					95	
His	Lys	Lys	Phe	Asp	Lys	Gln	Phe	Leu	Cys	Ile	Pro	Lys	Val	Ile	Ser
			100					105					110		

Asn Glu Asp Glu Ala Leu Leu Gly Ser Arg Pro Gln Ala Val Glu Lys
 115 120 125
 Ala Val Arg Glu Ile Ser Pro Ala Phe Phe Ser Ile Pro Arg Lys Tyr
 130 135 140
 Gln Leu Ile Arg Ile Asp Thr Pro Lys Asp Asp Ala Pro Ser Ile Leu
 145 150 155 160
 Phe Pro Ile Gly Ile Glu Ile Ile Leu Lys Asp Leu Cys Ile Asp Thr
 165 170 175
 Leu Lys Gln Ser Asn Leu Phe Leu Lys Arg Glu Met Asp Phe Leu Gly
 180 185 190
 His Pro Glu Glu Lys Ala Leu Phe Asp Ser Ile Cys Ser Ile Glu Lys
 195 200 205
 Asp Gln Glu Trp Met Ser Leu Glu Ser Lys Lys Leu Leu Ile Thr His
 210 215 220
 Phe Leu Lys Tyr Leu Phe Val Ser Gly Ile Glu Gln Leu Asn Pro Gly
 225 230 235 240
 Phe Asn Pro Glu Asn Gly Arg Gly Tyr Phe Ser Glu Ile Ser Thr Ala
 245 250 255
 Lys Ile His Phe His Gln His Gly Arg Tyr Gly Pro Ile Arg Ser Ser
 260 265 270
 Gly Pro Ile Met Lys Glu Ile
 275

<210> 206
 <211> 104
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0204

<400> 206
 Pro Arg Glu Trp Ala Trp Val Phe Phe Arg Asn Lys Tyr Ser Lys Asp
 1 5 10 15
 Pro Phe Ser Ser Ala Arg Ser Ile Trp Ala Asn Pro Phe Phe Gly Thr
 20 25 30
 His His Glu Gly Asn Ile Lys Ile Lys Gly Met Gly Tyr Gln Ile Phe
 35 40 45
 Thr Arg Leu Lys Lys Leu Gly Ile Ser Phe Ser Ser Tyr Asn Ser Ile
 50 55 60
 Asn Pro Asn Pro Tyr Phe Phe Asp Glu Gly Cys Phe Val Tyr Trp Glu
 65 70 75 80
 Ser Gln Phe Lys Ser Ala Leu Gln Asp His Gly Ile Leu Gln Lys Gln
 85 90 95
 Thr Glu Thr Phe Tyr Arg Asn Thr
 100

<210> 207
 <211> 85
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0205

<400> 207
 Ile Glu Asp Ser Ile Lys Gly Tyr Gly Ser Ala Ser Ala Phe Arg Asn
 1 5 10 15
 Pro Pro Gln Leu Leu Lys Phe Phe Leu Val Cys Glu Glu Leu Cys
 20 25 30

Ile	Leu	Thr	Val	Ala	Thr	His	Arg	Ala	Leu	Leu	Glu	Thr	Pro	Leu	Ala
		35					40					45			
Leu	Ser	Phe	Phe	Lys	Glu	Leu	Lys	Thr	Lys	Tyr	Val	Tyr	Arg	Ala	Lys
	50					55					60				
Asp	Ile	Leu	Gln	Leu	His	Asn	Tyr	Lys	Gly	Phe	Thr	Ile	Leu	Asn	Thr
65					70					75					80
Ser	Pro	Leu	Cys	Ser											
				85											

<210> 208
 <211> 272
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0206

Ile	Val	Asp	Arg	Ser	Pro	Ala	Cys	Tyr	Asp	Ser	Ile	Asn	Ser	Asp	
1				5				10					15		
Ala	Ile	Gly	Val	Ser	Leu	Leu	Met	Asp	Ile	Ser	His	Ile	Leu	Glu	Asp
			20				25						30		
Leu	Ala	Tyr	Asp	Glu	Gly	Ile	Leu	Pro	Arg	Glu	Ala	Ile	Glu	Ala	Ala
		35				40					45				
Ile	Val	Lys	Gln	Met	Gln	Ile	Thr	Pro	Tyr	Leu	Leu	His	Ile	Leu	His
	50				55					60					
Asp	Ala	Thr	Gln	Arg	Val	Pro	Glu	Ile	Val	Asn	Asp	Gly	Ser	Tyr	Gln
65				70						75					80
Gly	His	Leu	Tyr	Ala	Met	Tyr	Leu	Leu	Ala	Gln	Phe	Arg	Glu	Ser	Arg
				85				90					95		
Ala	Leu	Pro	Leu	Ile	Ile	Lys	Leu	Phe	Ala	Phe	Glu	Asp	Asp	Thr	Pro
			100				105						110		
His	Ala	Ile	Ala	Gly	Asp	Val	Leu	Thr	Glu	Asp	Leu	Pro	Arg	Ile	Leu
	115					120					125				
Ala	Ser	Val	Cys	Asn	Asp	Asp	Ser	Leu	Ile	Lys	Glu	Leu	Ile	Glu	Thr
	130				135					140					
Pro	Lys	Ile	Asn	Pro	Tyr	Val	Lys	Ala	Ala	Ala	Ile	Ser	Gly	Leu	Val
145				150					155						160
Thr	Leu	Val	Gly	Ala	Gly	Lys	Ile	Pro	Arg	Asp	Lys	Val	Ile	Arg	Tyr
			165					170						175	
Phe	Ala	Glu	Leu	Leu	Asn	Tyr	Arg	Leu	Glu	Lys	Gln	Pro	Ser	Phe	Ala
		180				185							190		
Trp	Asp	Asn	Leu	Ile	Ala	Gly	Ile	Cys	Thr	Leu	Tyr	Pro	Gly	Glu	Leu
	195					200						205			
Phe	Tyr	Pro	Ile	Ser	Lys	Ala	Phe	Asp	Gly	Gly	Leu	Val	Asp	Thr	Ser
	210				215						220				
Phe	Ile	Ser	Met	Glu	Asp	Val	Glu	Asn	Ile	Ile	His	Glu	Glu	Thr	Val
225				230					235					240	
Glu	Ser	Cys	Ile	His	Thr	Leu	Cys	Ser	Ser	Thr	Glu	Leu	Ile	Asn	Asp
			245					250						255	
Thr	Leu	Glu	Glu	Met	Glu	Lys	Trp	Leu	Glu	Asp	Phe	Pro	Ile	Glu	Pro
		260						265					270		

<210> 209
 <211> 470
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0207

<400> 209

Val	Asn	Lys	Lys	Lys	Arg	Phe	Leu	Ser	Leu	Leu	Phe	Leu	Thr	Ala	Val
1				5					10					15	
Leu	Leu	Gly	Ile	Trp	Phe	Ser	Pro	His	Pro	Ala	Ser	Ile	Asn	Ser	Asn
			20					25					30		
Ala	Trp	Gln	Leu	Phe	Ala	Ile	Phe	Thr	Thr	Thr	Ile	Met	Gly	Ile	Ile
		35					40					45			
Phe	Gln	Pro	Val	Pro	Met	Gly	Ala	Ile	Ala	Ile	Ile	Gly	Ile	Ser	Thr
		50				55					60				
Leu	Leu	Leu	Thr	Gln	Thr	Leu	Thr	Leu	Glu	Gln	Gly	Leu	Ser	Gly	Phe
65					70				75						80
His	Asn	Pro	Ile	Ala	Trp	Leu	Val	Phe	Leu	Ser	Phe	Ser	Ile	Ala	Lys
				85				90						95	
Gly	Ile	Ile	Lys	Thr	Gly	Leu	Gly	Glu	Arg	Ile	Ala	Tyr	Phe	Phe	Val
			100					105						110	
Ser	Ala	Leu	Gly	Lys	Ser	Pro	Leu	Gly	Leu	Ser	Tyr	Gly	Leu	Val	Ile
			115				120					125			
Thr	Asp	Phe	Phe	Leu	Ala	Pro	Ala	Ile	Pro	Ser	Val	Thr	Ala	Arg	Ala
	130					135					140				
Gly	Gly	Ile	Leu	Tyr	Pro	Val	Val	Thr	Ser	Leu	Ser	Asp	Ser	Phe	Gly
145					150					155					160
Ser	Ser	Ala	Glu	Lys	Gly	Thr	Gln	Asp	Leu	Ile	Gly	Ser	Phe	Leu	Ile
				165				170						175	
Lys	Val	Ala	Tyr	Gln	Ser	Ser	Val	Ile	Thr	Ser	Ala	Met	Phe	Leu	Thr
			180					185					190		
Ala	Met	Ala	Gly	Asn	Pro	Leu	Val	Ala	Ala	Leu	Ala	Gly	His	Val	Gly
		195					200					205			
Val	Ser	Leu	Ser	Trp	Val	Leu	Trp	Ala	Lys	Ala	Ala	Ile	Ile	Pro	Gly
	210					215					220				
Leu	Pro	Ser	Leu	Phe	Leu	Met	Pro	Ile	Ile	Leu	Tyr	Lys	Leu	Tyr	Pro
225					230					235					240
Pro	Lys	Ile	Thr	Ser	Cys	Glu	Glu	Ala	Ile	Arg	Ser	Ala	Lys	Leu	Arg
				245					250					255	
Leu	Lys	Glu	Met	Gly	Pro	Leu	Lys	Lys	Glu	Glu	Lys	Thr	Ile	Leu	Met
			260					265					270		
Ile	Phe	Phe	Leu	Leu	Val	Val	Leu	Trp	Thr	Phe	Gly	Asp	Leu	Leu	Gly
		275					280					285			
Ile	Ser	Ala	Thr	Thr	Ala	Ala	Leu	Ile	Gly	Leu	Ser	Leu	Leu	Ile	Leu
		290				295					300				
Thr	Asn	Ile	Leu	Asp	Trp	Gln	Lys	Asp	Val	Ile	Ala	Asn	Thr	Thr	Ala
305					310					315					320
Trp	Glu	Thr	Phe	Ile	Trp	Phe	Gly	Ala	Leu	Ile	Met	Met	Ala	Ser	Phe
				325				330						335	
Leu	Asn	Gln	Leu	Gly	Phe	Ile	Pro	Leu	Val	Gly	Asp	Ser	Ala	Ala	Ala
			340					345					350		
Leu	Val	Ser	Gly	Leu	Ser	Trp	Lys	Ile	Gly	Phe	Pro	Leu	Leu	Phe	Leu
			355				360					365			
Ile	Tyr	Phe	Tyr	Ser	His	Tyr	Leu	Phe	Ala	Ser	Asn	Thr	Ala	His	Ile
	370					375					380				
Gly	Ala	Met	Tyr	Pro	Ile	Phe	Leu	Ala	Val	Ser	Ile	Ser	Leu	Gly	Thr
385					390					395					400
Asn	Pro	Ile	Phe	Ala	Ala	Leu	Thr	Leu	Ala	Phe	Ala	Ser	Asn	Leu	Phe
				405					410					415	
Gly	Gly	Leu	Thr	His	Tyr	Gly	Ser	Gly	Pro	Ala	Pro	Leu	Tyr	Phe	Gly
			420					425					430		
Ser	His	Leu	Val	Thr	Val	Gln	Glu	Trp	Trp	Arg	Ser	Gly	Phe	Ala	Leu
		435					440					445			
Ser	Ile	Val	Asn	Ile	Val	Ile	Trp	Ile	Gly	Ile	Gly	Ser	Leu	Trp	Trp
		450				455					460				
Lys	Ala	Leu	Gly	Leu	Ile										
465					470										

<210> 210
 <211> 556
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0208

<400> 210
 Ser Val Ala Val Ile Leu Met His Pro Leu Tyr Val Asp Leu Asp Thr
 1 5 10 15
 Ile Ile Ser Ser Tyr Ser Pro Pro Leu Pro Lys Glu Phe Gln Glu Ala
 20 25 30
 Ala Ser Leu Ile Ala Val Pro Asp Thr Ser His Ser Lys Pro Val Val
 35 40 45
 Pro Gly Val Lys Thr Leu Phe Pro Gln Thr Tyr His Leu Pro Tyr Leu
 50 55 60
 Lys Phe Val Gln Gly Glu Asn Val Val His Thr Pro Leu Lys Val Gly
 65 70 75 80
 Val Met Phe Ser Gly Gly Pro Ala Pro Gly Gly His Asn Val Ile Gln
 85 90 95
 Gly Leu Phe Asn Ser Leu Lys Asp Phe His Pro Asp Ser Ser Leu Val
 100 105 110
 Gly Phe Val Asn Asn Gly Asp Gly Leu Thr Asn Asn Lys Ser Ile Asp
 115 120 125
 Ile Thr Glu Glu Phe Leu Ser Lys Phe Arg Asn Ser Gly Gly Phe Asn
 130 135 140
 Cys Ile Gly Thr Gly Arg Lys Lys Ile Val Thr Pro Glu Ala Lys Glu
 145 150 155 160
 Ala Cys Leu Lys Thr Ala Glu Ala Leu Asp Leu Asp Gly Leu Val Ile
 165 170 175
 Ile Gly Gly Asp Gly Ser Asn Thr Ala Thr Ala Ile Leu Ala Glu Tyr
 180 185 190
 Phe Ala Lys Arg Arg Pro Lys Thr Ser Ile Val Gly Val Pro Lys Thr
 195 200 205
 Ile Asp Gly Asp Leu Gln His Thr Phe Leu Asp Leu Thr Phe Gly Phe
 210 215 220
 Asp Thr Ala Thr Lys Phe Tyr Ser Ser Ile Ile Ser Asn Ile Ser Arg
 225 230 235 240
 Asp Ala Leu Ser Cys Lys Ala His Tyr His Phe Ile Lys Leu Met Gly
 245 250 255
 Arg Ser Ala Ser His Ile Ala Leu Glu Cys Ala Leu Gln Thr His Pro
 260 265 270
 Asn Ile Ala Leu Ile Gly Glu Glu Ile Ala Glu Lys Asn Leu Pro Leu
 275 280 285
 Lys Thr Ile Ile His Lys Ile Cys Ser Val Ile Ala Asp Arg Ala Ala
 290 295 300
 Met Glu Lys Tyr Tyr Gly Val Ile Leu Ile Pro Glu Gly Ile Ile Glu
 305 310 315 320
 Phe Ile Pro Glu Ile Ile Asn Leu Ile Thr Glu Ile Glu Ser Leu Ser
 325 330 335
 Glu Tyr Glu Asp Lys Ile Ser Arg Leu Ser Pro Glu Ser Gln Arg Leu
 340 345 350
 Leu Lys Ser Phe Pro Ala Pro Ile Ile Glu Gln Ile Leu Asn Asp Arg
 355 360 365
 Asp Ala His Gly Asn Val Tyr Val Ser Lys Ile Ser Val Asp Lys Leu
 370 375 380
 Leu Ile His Leu Val Ser Asn His Leu Gln Gln Tyr Phe Pro Asn Val
 385 390 395 400
 Pro Phe Asn Ala Ile Ser His Phe Leu Gly Tyr Glu Gly Arg Ser Gly
 405 410 415

Leu Pro Thr Lys Phe Asp Asn Thr Tyr Gly Tyr Ser Leu Gly Tyr Gly
 420 425 430
 Ala Gly Ile Leu Val Arg Asn His Cys Asn Gly Tyr Leu Ser Thr Ile
 435 440 445
 Glu Ser Leu Ala Cys Pro Phe Met Lys Trp Lys Leu Arg Ala Ile Pro
 450 455 460
 Val Val Lys Met Phe Thr Val Lys Gln Gln Ala Asp Gly Thr Leu Gln
 465 470 475 480
 Pro Lys Ile Lys Lys Tyr Leu Val Asp Ile Gly Ser Thr Ala Phe Arg
 485 490 495
 Lys Phe Lys Leu Tyr Arg Lys Ile Trp Ala Leu Glu Asp Ser Tyr Arg
 500 505 510
 Phe Leu Gly Pro Leu Gln Ile Glu Thr Pro Pro Glu Met His Ser Asp
 515 520 525
 Asn Phe Pro Pro Leu Thr Leu Leu Leu Asn His Asn Phe Trp Gln Arg
 530 535 540
 His Gln Gly Cys Ile Glu Ile Pro Asp Thr Thr Tyr
 545 550 555

<210> 211
 <211> 88
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0209

<400> 211
 Asn Ser Ser Asn Asn Ile Arg Leu Lys Met Glu Thr Tyr Ser Phe Ser
 1 5 10 15
 Thr Glu Leu Gln Lys Asn Thr Ser Leu Tyr Ile Met Glu Lys Leu Asp
 20 25 30
 Ser Tyr Phe Ser Phe Gln Gly Lys Arg Thr Arg Val Ile Ala Ile Thr
 35 40 45
 Pro Ala Gly Leu Ala Ile Ala Tyr Glu Gln Asn Ile His Leu Ser Met
 50 55 60
 Thr Val Lys Ile Leu Lys Val Leu Ser Phe Pro Arg Ser Leu Leu Arg
 65 70 75 80
 Thr Thr Ser Leu Trp Tyr Arg Pro
 85

<210> 212
 <211> 340
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0210

<400> 212
 Tyr Gln Lys Leu Trp Glu Arg Glu Arg Glu Tyr Phe Lys Thr Ile Arg
 1 5 10 15
 Glu Lys Glu His Ala Thr Ile Ser Thr Met Leu Val Glu Leu Glu Ala
 20 25 30
 Leu Lys Arg Glu Phe Ala His Leu Lys Asp Gln Lys Pro Thr Ser Asp
 35 40 45
 Gln Glu Ile Thr Ser Leu Tyr Gln Cys Leu Asp His Leu Glu Phe Val
 50 55 60
 Leu Leu Gly Leu Gly Gln Asp Lys Phe Leu Lys Ala Thr Glu Asp Glu
 65 70 75 80

Asp Val Leu Phe Glu Ser Gln Lys Ala Ile Asp Ala Trp Asn Ala Leu
 85 90 95
 Leu Thr Lys Ala Arg Asp Val Leu Gly Leu Gly Asp Ile Gly Ala Ile
 100 105 110
 Tyr Gln Thr Ile Glu Phe Leu Gly Ala Tyr Leu Ser Lys Val Asn Arg
 115 120 125
 Arg Ala Phe Cys Ile Ala Ser Glu Ile His Phe Leu Lys Thr Ala Ile
 130 135 140
 Arg Asp Leu Asn Ala Tyr Tyr Leu Leu Asp Phe Arg Trp Pro Leu Cys
 145 150 155 160
 Lys Ile Glu Glu Phe Val Asp Trp Gly Asn Asp Cys Val Glu Ile Ala
 165 170 175
 Lys Arg Lys Leu Cys Thr Phe Glu Lys Glu Thr Lys Glu Leu Asn Glu
 180 185 190
 Ser Leu Leu Arg Glu Glu His Ala Met Glu Lys Cys Ser Ile Gln Asp
 195 200 205
 Leu Gln Arg Lys Leu Ser Asp Ile Ile Ile Glu Leu His Asp Val Ser
 210 215 220
 Leu Phe Cys Phe Ser Lys Thr Pro Ser Gln Glu Glu Tyr Gln Lys Asp
 225 230 235 240
 Cys Leu Tyr Gln Ser Arg Leu Arg Tyr Leu Leu Leu Tyr Glu Tyr
 245 250 255
 Thr Leu Leu Cys Lys Thr Ser Thr Asp Phe Gln Glu Gln Ala Arg Ala
 260 265 270
 Lys Glu Glu Phe Ile Arg Glu Lys Phe Ser Leu Leu Glu Leu Glu Lys
 275 280 285
 Gly Ile Lys Gln Thr Lys Glu Leu Glu Phe Ala Ile Ala Lys Ser Lys
 290 295 300
 Leu Glu Arg Gly Cys Leu Val Met Arg Lys Tyr Glu Ala Ala Ala Lys
 305 310 315 320
 His Ser Leu Asp Ser Met Phe Glu Glu Glu Thr Val Lys Ser Pro Arg
 325 330 335
 Lys Asp Thr Glu
 340

<210> 213
 <211> 101
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0211

<400> 213
 Glu Cys Val Met Ser Tyr Pro Asp Ile Ser Asn Val Gln Ala Ser Ser
 1 5 10 15
 Ile Gln Ser Ala Leu Leu His Lys Thr Ser Asp Gln Ile Gln Gln Lys
 20 25 30
 Arg Cys Phe Lys Gln Ser Thr Phe Val Ile Leu Ala Val Ser Leu Val
 35 40 45
 Ile Ile Gly Ser Leu Phe Leu Leu Ala Gly Val Ala Ile Leu Thr Val
 50 55 60
 Phe Ser His Gly Val Leu Ser Leu Val Phe Gly Val Leu Gly Ile Val
 65 70 75 80
 Leu Gly Leu Leu Leu Leu Ala Gly Gly Val Gly Leu Leu Val Glu Glu
 85 90 95
 Ala Lys Ser Leu Leu
 100

<210> 214
 <211> 398
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0212

<400> 214
 Glu Leu Ser Tyr Gly Val Val Val Ser Ile Tyr Ser Glu Ile Leu Ser
 1 5 10 15
 Phe Ser Glu Leu Thr Ser Cys Lys His Ser Leu Phe Pro Phe Gly Pro
 20 25 30
 Ile Glu Thr Ala Ser Ile Arg Ile His His Val Phe Asn Val Val Ile
 35 40 45
 Val Cys Leu Ile Ile Leu Gly Thr Leu Phe Val Cys Leu Gly Met Val
 50 55 60
 Phe Leu Gly Val Phe Ser Thr Tyr Leu Leu Gly Met Ser Ser Met Ile
 65 70 75 80
 Leu Gly Leu Leu Leu Ile Ser Ile Gly Leu Ala Leu Leu Lys Phe Lys
 85 90 95
 Glu Arg Tyr Gly Leu Glu Pro Lys Glu Leu Phe Gly Val Glu Gly Gly
 100 105 110
 Phe Asp Lys Lys Leu Pro Ser Glu Ile Ile Gln Met Gln Asp Gln Ile
 115 120 125
 Ala Asp Leu Ala Arg Glu Leu Asp Leu Glu Gln Lys Lys Asp Thr Leu
 130 135 140
 Ile Arg Gly Phe Ser Ala Arg Leu Asp Val Leu Glu Gly Ser Lys Thr
 145 150 155 160
 Glu Lys Lys Gln Ile Leu Lys Ile Gly Val Pro Arg Asn Leu Ser Glu
 165 170 175
 Ile Gln Glu Arg Ala Gln Glu Gln Asn Ser Ile Leu Glu Gln Cys Lys
 180 185 190
 Glu Ala Leu Leu Phe Arg Arg Lys Ser Ala Gln Glu Ile Phe Lys Lys
 195 200 205
 Leu Tyr Asp Arg Lys Ala Ala Phe Trp Arg Ser Tyr Arg Glu Asp Leu
 210 215 220
 Trp Cys Tyr Ser Glu Ile His Val Ser Lys Lys Ala Leu Ser Asn Leu
 225 230 235 240
 Tyr Ile Gly Asp Val Phe Glu Gly Thr Ala Pro His Phe Leu Met Glu
 245 250 255
 Ala Tyr Ala Met Cys Arg Thr Ala Lys Asn Leu Arg Asn Tyr Val Lys
 260 265 270
 Val Cys Val Glu Asp Met Arg Val Asn Glu Glu Lys Lys Arg Ala Lys
 275 280 285
 Gln Leu Ser Val Ser Glu Leu Leu Cys Cys Cys Thr Glu Ile Glu Thr
 290 295 300
 Asp Leu Glu Asn Glu Thr Asn Leu Phe Thr Ser Asp Ser Glu Asp Val
 305 310 315 320
 Leu Glu Glu Tyr Gln Ile His Cys Ile Arg Val Thr Met Leu His Ala
 325 330 335
 Leu Trp Ala Ile Tyr Asn Asp Glu Val Val Ser Arg Lys Pro Ile Asp
 340 345 350
 Thr Leu Asp Arg Val Arg Ala Arg Met Ala Val Glu Asp Cys Ile Glu
 355 360 365
 Thr Phe Glu Glu Leu Gln Met Cys Val Val His Thr Lys Thr Leu Glu
 370 375 380
 Leu Glu Ile Ala Gln Leu Tyr Val Asp Ile Leu Leu Glu Ala
 385 390 395

<210> 215
 <211> 52
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0213

<400> 215
 Ile Leu Val Val Phe Ser Arg Val Ile Phe Ser Asn Thr Asn Gln Ile
 1 5 10 15
 Gly Ile Pro Arg Leu Glu Leu Ile Leu Pro Leu Trp Lys Lys Glu Asn
 20 25 30
 Asp Pro Phe Cys Phe Leu Phe Ser Arg Val Glu Gly Thr Phe Ile Ile
 35 40 45
 Leu Asn Ile Lys
 50

<210> 216
 <211> 441
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0214

<400> 216
 Phe Leu Gly Leu Lys Glu Asp Tyr Glu Arg Pro Thr Tyr Cys Asn Ile
 1 5 10 15
 Pro Pro Ala Pro His Pro Gln Arg Val Asp Ser Lys Gly Cys Ile Ala
 20 25 30
 Ser His Val Ser Thr Val Val Val Val Ala Leu Phe Ile Leu Gly Ile
 35 40 45
 Phe Phe Leu Ser Gly Ser Leu Ala Phe Leu Val His Thr Ser Cys Gly
 50 55 60
 Val Leu Leu Gly Ala Ala Leu Pro Ile Leu Cys Ile Gly Leu Val Leu
 65 70 75 80
 Leu Ala Val Ala Leu Ile Val Phe Leu Cys His Lys His Lys Thr Arg
 85 90 95
 Gln Asp Leu Asp Tyr Tyr Asp Gln Asp Leu Asp Ser Leu Val Ile His
 100 105 110
 Lys Lys Glu Ile Pro Asn Asp Ile Ser Glu Leu Arg Val Thr Phe Glu
 115 120 125
 Lys Leu Gln Asn Leu Phe Gln Phe His Thr Lys Asp Phe Ser Asp Leu
 130 135 140
 Ser Gln Glu Leu Gln Gly Lys Phe Ile Asn Cys Met Glu Lys Trp Leu
 145 150 155 160
 Thr Leu Glu Asp Glu Val Thr Lys Phe Leu Ile Val Arg Asp Arg Phe
 165 170 175
 Leu Glu Thr Arg Arg Asn Phe Thr Thr Phe Gly Glu Gln Val Lys Gly
 180 185 190
 Ile Gln Ser Asn Ile Phe Asp Leu His Glu Glu Lys Ser Ser Leu Tyr
 195 200 205
 Leu Glu Leu Tyr Arg Leu Arg Lys Asp Leu Gln Val Leu Leu Asn Phe
 210 215 220
 Phe Leu Leu Pro Pro Gly Ile Leu Lys Val Asp Tyr Asp Glu Ile Glu
 225 230 235 240
 Ala Ile Lys Gly Leu Phe Ile Arg Leu Thr Ser Arg Leu Asp Lys Leu
 245 250 255
 Asp Val Lys Ala Gln Glu Arg Lys Lys Phe Ile Asn Glu Met Ser Arg
 260 265 270

Glu Phe Lys Glu Val Glu Lys Ala Phe Asp Ile Val Asp Arg Ala Thr
 275 280 285
 Lys Lys Leu Met Asp Arg Ala Lys Lys Glu Ser Pro Ala Arg Leu Phe
 290 295 300
 Met Gly Arg Thr Glu Ser Leu Leu Glu Met Lys Lys Asn Glu Glu Ala
 305 310 315 320
 Leu Lys Asn Gln Gly Leu Asp Pro Glu Asn Leu Ser His Pro Glu Leu
 325 330 335
 Phe Ser Pro Tyr Gln Gln Leu Leu Ile Leu Asn Tyr Leu Asn Ser Glu
 340 345 350
 Ile Val Leu His His Tyr Glu Phe Leu Ile Ser Gly Thr Val Thr Ser
 355 360 365
 Gly Leu Thr Leu Glu Glu Cys Glu Asn Arg Met Arg Ala Ala Ser Thr
 370 375 380
 Gly Leu Asn Ala Leu Leu Val Arg Lys Leu Gln Phe Arg Gly Ala Ile
 385 390 395 400
 Lys Ser Ala Tyr Phe Glu Lys Leu Thr Glu Ile Glu Lys Glu Leu Arg
 405 410 415
 Ser Leu Gln Asp Val Ile Lys Ser Leu Glu Leu Glu Leu Ile His Lys
 420 425 430
 Ile Lys Asp Ile Val Thr Glu Glu Thr
 435 440

<210> 217
 <211> 427
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0215

 <400> 217
 Leu Thr Ser Ser Lys Lys Gln Val Met Ser Ser Ala Ile Ala Arg Asp
 1 5 10 15
 Cys Phe Pro Ser Pro Ser Pro Gln Pro Ser Ser Thr Leu Gly Val His
 20 25 30
 Pro Pro Lys Tyr Lys Ser Leu Ile Leu Ser Val Ser Leu Ile Val Leu
 35 40 45
 Gly Val Leu Leu Leu Cys Val Gly Met Leu Leu Leu Val Asn Ala Ile
 50 55 60
 Phe Ser Phe Ser Val Leu Thr Val Gly Leu Gly Gly Ala Gly Val Phe
 65 70 75 80
 Leu Gly Ser Leu Leu Ile Leu Gly Leu Ile Phe Phe Val Ser Tyr
 85 90 95
 His Arg Lys Leu Ser Glu Ala Thr Arg Ser Leu Glu Gln Lys Ile Thr
 100 105 110
 Leu Glu Tyr Gln Pro Trp Ala Asp Leu Arg Lys Glu Leu Asn Glu Val
 115 120 125
 Gln Glu Trp Ser Asn Phe Leu Leu Asp Glu Trp Glu Asp Phe Lys Glu
 130 135 140
 Val Val Ala Gln His Lys Ser Gln Phe Ala Thr Phe Glu Gly Asp Leu
 145 150 155 160
 Leu Leu Phe Gly Arg Glu Val Glu Lys Tyr Glu Thr Ile Trp Lys Glu
 165 170 175
 Leu Asp Gly Arg Asp Val Ala Leu Leu Thr Glu Leu Lys Asn Ile Trp
 180 185 190
 Gly Pro Leu Glu Phe Leu Arg Lys Lys Gly Asp Arg Leu Gln Cys Glu
 195 200 205
 Ile Asp Lys Leu Arg Lys Glu Val Met Lys Val Gly Lys Ser Gly Leu
 210 215 220

Lys Leu Ala Cys Glu Leu Thr Lys Phe Lys Ser Ala Leu Lys Asp Val
 225 230 235 240
 Lys Ile Glu Gln Glu Cys Tyr Arg Asp Lys Arg Lys Val Glu Lys Leu
 245 250 255
 Glu Val Phe Pro Glu Gly Tyr Arg Arg Glu Leu Leu Glu Val Leu Lys
 260 265 270
 Thr Arg Leu Ser Val Glu Lys Glu Ile Gln Leu Phe Glu Glu Val Val
 275 280 285
 Ser Ala Phe Glu Glu Lys Leu Ala Ser Leu His Arg Thr Val Phe Ser
 290 295 300
 Glu Glu Glu Leu Gln Glu Ala Leu Asp Lys Ala Lys Ala Glu Leu Leu
 305 310 315 320
 Asp Ile Gln Val Arg Lys Ser Val Val Glu Asp Leu Ser Cys Glu Pro
 325 330 335
 Thr Leu Ile Gln Tyr His Leu Leu Arg Leu Tyr Glu Val Gln Cys Arg
 340 345 350
 Ile Val Glu Gln Phe Leu Thr Gln Thr Phe Ser Ser Glu Gln Glu Lys
 355 360 365
 Val Leu Glu Glu Tyr Glu Ala Leu Lys Ala Arg Ile Arg Lys Thr Leu
 370 375 380
 Arg Val Lys Leu Asp Gln Val Arg Ala Asn Val Ala Phe Val Ala Ser
 385 390 395 400
 Thr Thr Asp Leu Leu Ser Glu Ser Glu Ser Leu Asp Gly Asn Asp Ser
 405 410 415
 Val Phe Glu Asp Ala His Asp Asp Phe Leu Asp
 420 425

<210> 218
 <211> 150
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0216

<400> 218
 Asn Lys Ala Arg Thr Met Asn Pro Val Thr Phe Asp Arg Ile Gln Val
 1 5 10 15
 Asp Phe Ile Pro Glu Asp Thr Ser Leu Arg Ile Asn Ser Tyr Ile Val
 20 25 30
 Ala Gly Gly Leu Leu Ile Leu Gly Val Val Leu Ser Ile Leu Ser Val
 35 40 45
 Ile Cys Leu Asp Ile Gly Leu Val Gly Leu Ser Ala Gly Ala Ala Phe
 50 55 60
 Thr Leu Gly Leu Gly Cys Leu Ile Phe Ala Leu Phe Leu Phe Ser Phe
 65 70 75 80
 Ser Leu Ile Leu Leu Leu Ser Gln Glu Lys Arg Val Pro Asp Val Leu
 85 90 95
 Ser Leu Tyr Leu Glu Lys Glu Val Pro Gln Tyr Glu Thr Pro Leu Tyr
 100 105 110
 Lys Glu Asp Leu Glu Ser Glu Arg Asp Met Ser Ala Ile Ser Glu Arg
 115 120 125
 Leu Gly Ile Ile Glu Glu Lys Leu Arg Ile Ala Glu Lys Phe Arg Tyr
 130 135 140
 Ser Asp Ser Val Phe Val
 145 150

<210> 219
 <211> 233
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0217

<400> 219

Pro Lys Cys Cys Lys Leu Lys Gly Phe Leu Ser Val Asn Glu Leu Ile
1 5 10 15
Phe Gly Phe Gln Thr Phe Ser Val Val Val Leu Gly Val Phe Phe Ala
20 25 30
Ser Arg Gly Lys Ala Trp Leu Thr Gly Trp Leu Ser Leu Leu Ser Ser
35 40 45
Ile Met Asn Val Phe Val Leu Lys Gln Ile His Leu Trp Gly Phe Glu
50 55 60
Val Thr Ser Ala Asp Val Tyr Val Ile Gly Leu Leu Thr Cys Leu Asn
65 70 75 80
Tyr Ala Arg Glu His Tyr Glu Lys Asn Asp Ile Asn Asp Ala Met Leu
85 90 95
Cys Ser Trp Val Ile Ser Ile Ala Phe Leu Val Leu Thr Gln Leu His
100 105 110
Leu Phe Leu Ile Pro Ser Pro Asn Asp Ser Ser Gln Glu His Phe Leu
115 120 125
Ala Leu Phe Ser Ser Thr Pro Arg Ile Val Val Ala Ser Leu Val Thr
130 135 140
Leu Ile Phe Val Gln Ile Val Asp Ile Lys Leu Phe Thr Phe Leu Gln
145 150 155 160
Arg Val Phe Ser Lys Lys Tyr Phe Ala Met Arg Ser Thr Ile Ser Leu
165 170 175
Leu Phe Ser Gln Leu Ile Asp Thr Ile Ile Phe Ser Phe Leu Gly Leu
180 185 190
Tyr Gly Leu Val Ser Asn Leu Cys Asp Val Met Ile Phe Ala Met Leu
195 200 205
Val Lys Gly Ile Val Ile Thr Leu Ala Ile Pro Thr Leu Thr Val Thr
210 215 220
Lys Ala Val Leu Asp Arg Arg Ser Ser
225 230

<210> 220

<211> 161

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0218

<400> 220

Ile Phe Leu Ser Lys Lys Val Phe Phe Glu Ser Tyr Glu Asp Phe Ala
1 5 10 15
Asn Val Ala Ser Ser Trp Pro Lys Ser Leu Arg Ala Leu Val Gln Gly
20 25 30
Arg Tyr Phe Val Asp Ser Glu Leu Lys Glu Thr Pro Tyr Arg Ile His
35 40 45
Asp Phe Lys Lys Thr Pro Ile His His Arg Leu Tyr Arg Ser Leu Pro
50 55 60
Ile Ile Ser Thr Ile Gly Gly Ile Ile Arg Leu Ile Glu Ala His Ser
65 70 75 80
Gly Pro Ile His Pro Arg Asp Lys Met Lys Tyr Arg Phe Glu Val Leu
85 90 95
Gln Ala Val Ile Glu Ile Leu Gly Leu Gly Val Leu Ile Leu Val Phe
100 105 110
Asp Ile Ile Gly Cys Phe Leu Ala Phe Leu Val Ala Ile Ile Leu Ser
115 120 125

Leu Leu Leu Tyr Cys Asn Ser Thr Phe Thr Cys Val Gln Asn Leu Ser
 130 135 140
 Phe Thr Glu Arg Met Leu Glu Gly Ile Gly Glu Ala Val Asn Phe Leu
 145 150 155 160
 Ala

<210> 221
 <211> 375
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0219

<400> 221
 Gly Ser Ser Leu Ala Leu Lys Phe His Leu Ile His Gln Ser Lys Lys
 1 5 10 15
 Ser Gln Ala Arg Val Gly Gln Ile Glu Thr Ser His Gly Val Ile Asp
 20 25 30
 Thr Pro Ala Phe Val Pro Val Ala Thr His Gly Ala Leu Lys Gly Val
 35 40 45
 Ile Asp His Ser Asp Ile Pro Leu Leu Phe Cys Asn Thr Tyr His Leu
 50 55 60
 Leu Leu His Pro Gly Pro Glu Ala Val Ala Lys Leu Gly Gly Leu His
 65 70 75 80
 Gln Phe Met Gly Arg Gln Ala Pro Ile Ile Thr Asp Ser Gly Gly Phe
 85 90 95
 Gln Ile Phe Ser Leu Ala Tyr Gly Ser Val Ala Glu Glu Ile Lys Ser
 100 105 110
 Cys Gly Lys Lys Lys Gly Met Ser Ser Leu Val Lys Ile Thr Asp Glu
 115 120 125
 Gly Ala Trp Phe Lys Ser Tyr Arg Asp Gly Arg Lys Leu Phe Leu Ser
 130 135 140
 Pro Glu Leu Ser Val Gln Ala Gln Lys Asp Leu Gly Ala Asp Ile Ile
 145 150 155 160
 Ile Pro Leu Asp Glu Leu Leu Pro Phe His Thr Asp Gln Glu Tyr Phe
 165 170 175
 Leu Thr Ser Cys Ser Arg Thr Tyr Val Trp Glu Lys Arg Ser Leu Glu
 180 185 190
 Tyr His Arg Lys Asp Pro Arg His Gln Ser Met Tyr Gly Val Ile His
 195 200 205
 Gly Gly Leu Asp Pro Glu Gln Arg Arg Ile Gly Val Arg Phe Val Glu
 210 215 220
 Asp Glu Pro Phe Asp Gly Ser Ala Ile Gly Gly Ser Leu Gly Arg Asn
 225 230 235 240
 Leu Gln Glu Met Ser Glu Val Val Lys Ile Thr Thr Ser Phe Leu Ser
 245 250 255
 Lys Glu Arg Pro Val His Leu Leu Gly Ile Gly Asp Leu Pro Ser Ile
 260 265 270
 Tyr Ala Met Val Gly Phe Gly Ile Asp Ser Phe Asp Ser Tyr Pro
 275 280 285
 Thr Lys Ala Ala Arg His Gly Leu Ile Leu Ser Lys Ala Gly Pro Ile
 290 295 300
 Lys Ile Gly Gln Gln Lys Tyr Ser Gln Asp Ser Ser Thr Ile Asp Pro
 305 310 315 320
 Ser Cys Ser Cys Leu Thr Cys Leu Ser Gly Ile Ser Arg Ala Tyr Leu
 325 330 335
 Arg His Leu Phe Lys Val Arg Glu Pro Asn Ala Ala Ile Trp Ala Ser
 340 345 350

Ile His Asn Leu His His Met Gln Gln Val Met Lys Glu Ile Arg Glu
 355 360 365
 Ala Ile Leu Lys Asp Glu Ile
 370 375

<210> 222
 <211> 193
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0220

<400> 222
 Phe Tyr Ser Phe Leu Lys Lys Lys Gly Ile Phe Tyr Met Ser Lys Glu
 1 5 10 15
 Ser Ile Arg Ser Tyr Ser Glu Ile Ser Thr Pro Thr Pro Ile Phe Arg
 20 25 30
 Glu Thr Pro Ser Lys Glu Gly Val Ala Tyr Lys Leu Gln Leu Arg Ser
 35 40 45
 Pro Ala Lys Asp Cys Ile Leu Arg Asn Arg Val Ser Leu Lys Gly Ala
 50 55 60
 Leu Leu Arg Ser Ile Pro Phe Tyr Gly Ser Phe Leu Gly Ala Lys Arg
 65 70 75 80
 Ile His Ser Ala Trp Ser Ala Lys Asp Ala Pro Cys Thr Thr Arg Val
 85 90 95
 Tyr His Tyr Leu Val Gly Gly Leu Glu Leu Leu Gly Leu Gly Val Val
 100 105 110
 Val Leu Ala Cys Lys Val Leu Ala Thr Ala Leu Lys Phe Leu Phe Ser
 115 120 125
 Lys Ala Ser Ser Lys Ile Lys Gln Met Lys Trp Arg Glu Lys Ala Arg
 130 135 140
 Asn Leu Ala Ala Lys Asp Thr Val Gln Ser Ile Lys Glu Phe Cys Ser
 145 150 155 160
 Val Asp Leu Thr Ser Cys Phe Thr Arg Cys Phe Arg Leu Arg Asn Arg
 165 170 175
 Val Val Glu Glu Gly Ala Ser Glu Asn Gln Thr Val Arg Glu Ile Ile
 180 185 190
 Val

<210> 223
 <211> 148
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0221

<400> 223
 Asp Ala Leu Arg Tyr Lys Tyr Glu Ile Gly Ile Gln Met Val Asn Arg
 1 5 10 15
 Tyr Lys Ser Ser Ala Glu Phe Ser Ala Asp His Tyr Tyr Asp Asp Asn
 20 25 30
 Leu Val Arg Met Gly Tyr Lys Arg Asn Leu Arg Gly Leu Ala Pro Val
 35 40 45
 Glu Asn Glu Val Cys Leu Phe Glu Glu Asn Asn Leu Leu Glu Ser Val
 50 55 60
 Met Ala Ser Ile Pro Ile Met Gly Ser Ile Leu Gly Leu Gly Arg Leu
 65 70 75 80

His Ser Val Trp Ser Thr Gln Asp Pro Lys Asp Ser Lys Ile Ser Ile
85 90 95
Ile Phe His Thr Ala Leu Gly Ile Leu Glu Thr Leu Gly Leu Gly Ile
100 105 110
Ile Val Leu Leu Ile Lys Ile Thr Ile Thr Ile Leu Leu Ile Leu Phe
115 120 125
Thr Pro Cys Leu Leu Cys Tyr Phe Met Tyr Ser Ala Ala Tyr Ser Asp
130 135 140
Phe His Pro Ile
145

<210> 224
<211> 123
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0222

<400> 224
Gly Glu Lys Phe Leu Lys Pro Trp Glu Lys Leu Arg Glu Leu Asn Ala
1 5 10 15
Phe Glu Leu Thr Gln Pro Glu Glu Tyr Arg Asn Arg Trp Val Leu Met
20 25 30
Pro Cys Leu Lys Cys Arg Phe Cys Arg Thr Gln His Ala Lys Val Trp
35 40 45
Ser Tyr Arg Cys Val His Glu Ala Ser Leu Tyr Glu Lys Asn Cys Phe
50 55 60
Leu Thr Leu Thr Tyr Asp Asp Lys His Leu Pro Gln Tyr Gly Ser Leu
65 70 75 80
Val Lys Leu His Leu Gln Leu Phe Leu Lys Arg Leu Arg Lys Met Ile
85 90 95
Ser Pro His Lys Ile Arg Tyr Phe Glu Cys Gly Ala Tyr Gly Thr Lys
100 105 110
Leu Gln Arg Pro His Tyr His Leu Leu Ser
115 120

<210> 225
<211> 128
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0223

<400> 225
Ser Thr Met Leu Ile Gly Arg Tyr Ser Ser Asp Asp Gln Phe Thr Glu
1 5 10 15
Ala Thr Lys Asn Thr Pro Thr Ile Ile Lys Leu Gly Phe Val Arg Asp
20 25 30
Asn Leu Glu Gly Leu Thr Asn Pro Ile Ser Glu Ile Val Ser Glu Thr
35 40 45
Ser Ser Ser Ile Lys Asp Ser Val Leu Arg Ser Leu Pro Ile Leu Gly
50 55 60
Ser Ile Leu Gly Cys Ala Arg Leu Tyr Ser Thr Leu Ser Thr Asn Asp
65 70 75 80
Pro Leu Asp Glu Thr Gln Glu Lys Ile Trp His Thr Ile Phe Gly Ala
85 90 95
Leu Glu Thr Leu Gly Leu Gly Ile Leu Ile Leu Leu Phe Lys Ile Ile
100 105 110

Phe Val Ile Leu His Cys Ile Phe His Leu Val Ile Gly Phe Cys Lys
115 120 125

<210> 226
<211> 91
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0224

<400> 226
Tyr Thr Phe Lys Asn Pro Lys Lys Asn Lys Lys Met Lys Pro Asn Ser
1 5 10 15
Ile Ile Phe Leu Glu Asn Thr Lys His Tyr Pro Asp Ile Phe Arg Glu
20 25 30
Gly Phe Val Arg Asp Arg His Gly Leu Met Glu Ala Ser Asp Trp Leu
35 40 45
Leu Ser Thr Glu Ile Thr Ile Arg Ser Ile Leu Gly Ala Ile Pro
50 55 60
Ile Leu Gly Asn Ile Leu Gly Ala Gly Arg Leu Tyr Ser Val Trp Tyr
65 70 75 80
Thr Ser Asp Glu Asp Trp Lys Lys Gln Val Val
85 90

<210> 227
<211> 232
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0225

<400> 227
Asn Ser Phe Thr Ile Lys Phe Leu Leu Met Thr Lys Asn Ala Ile Asn
1 5 10 15
Ser Gln Thr Thr Thr Pro Gln Pro Asn Leu Thr Asp Ala Glu Pro Ile
20 25 30
Ala Ser Arg Ala Gln Cys Lys Ser Ile Ala Val Ile Ile Ser Leu Phe
35 40 45
Ala Leu Gly Met Leu Leu Leu Cys Leu Gly Ile Ile Leu Ile Ser Ile
50 55 60
Pro Ile Pro Gly Leu Ala Ala Gln Val Ala Leu Gly Leu Gly Ile Val
65 70 75 80
Ser Leu Ile Leu Gly Ile Ala Leu Ala Asn Ile Gly Phe Leu Cys Leu
85 90 95
Leu Leu Arg Cys Lys Gln Val Pro Gln Lys Pro Asp Thr Leu Pro Ser
100 105 110
Glu Ser Ser Lys Gln Pro Ser Glu Gly Ser Thr Pro Thr Ala Leu Pro
115 120 125
Trp Gln Ala Gly Glu Phe Leu Glu Lys Val Gln Val Ser Ala Thr Pro
130 135 140
Ile Leu Leu Pro Lys Asn Lys Asp Glu Glu Leu Ser Ala Lys Val Met
145 150 155 160
Lys Glu Gly Ala Glu Ala Ala Ser Ser Ile Lys Gln Ala Val Leu Glu
165 170 175
Ser Thr Glu Lys Leu Ile Asp Ala Arg Lys Gln Glu Glu Ser Arg Arg
180 185 190
Glu Ala Arg Lys Lys Ile Val Ala Glu Glu Ala Glu Ala Ser Arg Lys
195 200 205

Arg Ile Gln Gln Gln Met Ala Ala Asp Gln Glu Ala Leu Arg Lys Arg
 210 215 220
 Lys Glu Glu Val Ala Lys Arg Lys
 225 230

<210> 228
 <211> 141
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0226

<400> 228
 Ala Ile Phe Asn Arg Lys Arg Met Pro Tyr Tyr Ala Asn Thr Leu Glu
 1 5 10 15
 Phe Ile Gln Gly Thr Gln Ser Leu Cys Pro Leu Phe Lys Tyr Gly Phe
 20 25 30
 Val Arg His His Tyr Lys Gly Gln Leu Glu Ile Glu Asp Ala Ser His
 35 40 45
 Asp Trp Asp Phe Leu Glu Pro Pro Ser Thr Trp Lys Arg Thr Leu Leu
 50 55 60
 Ala Ala Ile Pro Ile Leu Gly Ser Val Ile Gly Leu Gly Arg Leu Phe
 65 70 75 80
 Ser Ile Trp Ser Ile Arg Glu Pro Gln Asp Ser Gln Glu Tyr Lys Ser
 85 90 95
 Ile Phe Trp His Thr Leu Cys Ala Val Leu Glu Ile Leu Gly Leu Gly
 100 105 110
 Ile Val Ala Leu Ile Leu Lys Ile Leu Ala Thr Phe Ile Met Ala Met
 115 120 125
 Pro Gly Leu Lys Arg Val Ala Thr Phe Leu Phe Tyr Ser
 130 135 140

<210> 229
 <211> 153
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0227

<400> 229
 Lys Glu Arg Phe Asn Ile Phe Val Ser Cys Lys Leu Leu Lys Glu Ile
 1 5 10 15
 Met Met Ile Asn Phe Ile Arg Ser Tyr Ala Leu Tyr Phe Ala Trp Ala
 20 25 30
 Ile Ser Cys Ala Gly Thr Leu Ile Ser Ile Phe Tyr Ser Tyr Ile Leu
 35 40 45
 Asn Val Glu Pro Cys Ile Leu Cys Tyr Tyr Gln Arg Ile Cys Leu Phe
 50 55 60
 Pro Leu Thr Val Ile Leu Gly Ile Ser Ala Tyr Arg Glu Asp Ser Ser
 65 70 75 80
 Ile Lys Leu Tyr Ile Leu Pro Gln Ala Val Leu Gly Leu Gly Ile Ser
 85 90 95
 Ile Tyr Gln Val Phe Leu Gln Glu Ile Pro Gly Met Gln Leu Asp Ile
 100 105 110
 Cys Gly Arg Val Ser Cys Ser Thr Lys Ile Phe Leu Phe Ser Tyr Val
 115 120 125
 Thr Ile Pro Met Ala Ser Val Val Ala Phe Gly Ala Ile Val Cys Leu
 130 135 140

Leu Val Leu Thr Lys Lys Tyr Arg Gly
145 150

<210> 230
<211> 277
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0228

<400> 230
Val Lys Asp Arg Ala Asp Phe Leu Asn Leu Lys Glu Lys Phe Ser Cys
1 5 10 15
Ser Ile Leu Lys Lys Glu Asn Ala Phe Glu Phe Tyr Val Phe Cys Ser
20 25 30
Ile Lys Gln Leu Thr Asn Ser Ser Leu Arg Gly Pro Leu Asn Lys Lys
35 40 45
Ile Leu Val Leu Cys Thr Ala Met Phe Phe Ile Val Cys Phe Gly Phe
50 55 60
Leu Ile His Lys Lys His Thr Ile Leu Pro Pro Lys Ala His Ile Pro
65 70 75 80
Thr Asn Ala Lys His Phe Pro Thr Ile Gly Asn Pro Tyr Ala Pro Ile
85 90 95
Asn Ile Thr Val Phe Glu Glu Pro Ser Cys Ser Ala Cys Ala Glu Phe
100 105 110
Thr Thr Glu Val Phe Pro Leu Leu Lys Lys His Tyr Ile Asp Thr Gly
115 120 125
Glu Ile Ser Phe Thr Leu Ile Pro Val Cys Phe Ile Arg Gly Ser Lys
130 135 140
Pro Ala Ala Gln Ala Leu Leu Cys Ile Tyr His His Asp Pro Arg Gln
145 150 155 160
Ala Asp Ile Asp Ala Tyr Met Glu Tyr Phe His Arg Ile Leu Thr Tyr
165 170 175
Pro Lys Glu Glu Gly Ser His Trp Ala Thr Pro Glu Val Leu Thr Lys
180 185 190
Leu Ala Glu Gly Leu Lys Ile Asn Ser Gly Arg Ser Val Asn Pro Lys
195 200 205
Gly Leu Glu Gln Cys Ile Ala Ser Gly Gln Tyr Asn Glu Gln Ile Lys
210 215 220
Lys Asn Asn Leu Tyr Gly Ser Gln Val Leu Gly Gly Gln Leu Ala Thr
225 230 235 240
Pro Thr Ala Val Val Gly Asp Tyr Leu Ile Glu Asp Pro Thr Phe His
245 250 255
Glu Ile Glu Arg Ala Ile Gln His Ile Arg Gln Leu Gln Ala Val Glu
260 265 270
Gly Asp His Asp Asp
275

<210> 231
<211> 466
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0229

<400> 231
Asn Ser Lys Ala Phe Ser Phe Leu Arg Ile Glu Gln Glu Asn Phe Ser
1 5 10 15

<210> 232
 <211> 234
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0230

<400> 232
 Arg Phe Lys Lys Ala Leu Ile Tyr Met Ser Ser Gln Pro Leu Val Thr
 1 5 10 15
 Thr Ser Ser Ser Leu Ser Arg Tyr Val Val Leu Thr Gly Glu Glu Lys
 20 25 30
 Val Ala Cys Tyr Lys Lys Ala Phe Asn His Ile Trp His Gly Ala Pro
 35 40 45
 Ala Ile Ile Leu Ala Ala Ala Leu Leu Met Phe Cys Ile Phe Gly Phe
 50 55 60
 Val Leu Gly Ser Ile Leu Leu Gly Ala Pro Leu Glu Gly Ala Ser Ile
 65 70 75 80
 Leu Tyr Asp Val Ile Leu Pro Trp Leu Leu Pro Ser Ile Leu Val Phe
 85 90 95
 Val Leu Leu Val Leu Pro Leu Asn Ile Tyr Ala Tyr Ser His His Lys
 100 105 110
 Gln Val Leu Ala Leu His Glu Arg Ile Thr Gln Ser Asn Tyr Lys Glu
 115 120 125
 Ile Tyr Asp His Cys Glu Lys Glu Lys Lys Thr Pro Asn Lys Lys Ala
 130 135 140
 Leu Ser Leu Tyr Ile Glu Ser Gln Val Leu Val Pro Glu Tyr Ser Lys
 145 150 155 160
 Arg Phe Ser Ser Met Ile Leu Gly Lys Thr Leu Lys Ile Ile Pro Lys
 165 170 175
 Lys Asp Ser Pro Glu Ser Leu Lys His Asp Glu Leu Ile Gln Lys Ala
 180 185 190
 Leu Glu Arg Ala Lys Glu Asn Ile Tyr Met Asn Lys Asn Gln Arg Glu
 195 200 205
 Lys Arg Asp Glu Arg Glu Ala Lys Lys Glu Ala Lys Asn Ala Ser Lys
 210 215 220
 Thr Asn Pro Leu Trp Glu Gly Leu Gly Thr
 225 230

<210> 233
 <211> 248
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0231

<400> 233
 Pro Gln Ala Phe Val Ser Ile Gln Asp Arg Gly Phe Ser Met Leu Gln
 1 5 10 15
 Ala His Arg Leu Cys Tyr Ser Cys Asp Asn Gln Val Ile Leu Lys Asp
 20 25 30
 Ala Ser Phe Gln Ala Ser Pro Gly Thr Ile Thr Ile Ile Leu Gly Ser
 35 40 45
 Ser Gly Val Gly Lys Thr Thr Leu Phe Arg Leu Leu Ala Gly Phe Leu
 50 55 60
 Pro Leu Gln Glu Gly Glu Leu Leu Trp Asn Gly Ser Pro Leu Asn Arg
 65 70 75 80
 Lys Asp Val Ala Tyr Met Gln Gln Lys Glu Ala Leu Leu Pro Trp Arg
 85 90 95

Thr	Ala	Leu	Lys	Asn	Met	Thr	Leu	Ser	Thr	Glu	Leu	Gly	Ile	Asn	Thr
			100					105					110		
Ser	His	Asn	Ala	Leu	Ser	Asn	Glu	Arg	Leu	Glu	Glu	Ile	Ile	His	Asn
		115					120					125			
Phe	Asp	Leu	Gly	Gln	Leu	Leu	Asp	Arg	Tyr	Pro	Asp	Glu	Leu	Ser	Gly
	130					135					140				
Gly	Gln	Arg	Gln	Arg	Ile	Ala	Leu	Ala	Ala	Gln	Cys	Leu	Ser	Leu	Lys
145					150					155					160
Pro	Ile	Leu	Leu	Leu	Asp	Glu	Pro	Phe	Ser	Ser	Leu	Asp	Val	Leu	Leu
				165					170					175	
Lys	Glu	Gln	Leu	Tyr	Gln	Asp	Ile	Val	Ala	Leu	Ala	Lys	Lys	Glu	Asn
		180						185					190		
Lys	Thr	Val	Leu	Leu	Val	Thr	His	Asp	Phe	His	Asp	Val	Ser	Cys	Leu
		195					200					205			
Gly	Asp	Val	Leu	Tyr	Val	Ile	Lys	Asn	Lys	Thr	Leu	Thr	Pro	Val	Pro
	210					215					220				
Leu	Asp	Pro	Ser	Met	Arg	Pro	Leu	Asn	Asn	Gly	Leu	Cys	Phe	Ile	Lys
225					230					235					240
Asp	Leu	Lys	Lys	His	Leu	Tyr	Thr								
				245											

<210> 234
 <211> 301
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0232

Lys	Lys	Phe	Leu	Met	Arg	Arg	Phe	Leu	Phe	Leu	Ile	Leu	Ser	Ser	Leu
1				5					10					15	
Pro	Leu	Val	Ala	Phe	Ser	Ala	Asp	Asn	Phe	Thr	Ile	Leu	Glu	Glu	Lys
			20					25					30		
Gln	Ser	Pro	Leu	Ser	Arg	Val	Ser	Ile	Ile	Phe	Ala	Leu	Pro	Gly	Val
		35					40					45			
Thr	Pro	Val	Ser	Phe	Asp	Gly	Asn	Cys	Pro	Ile	Pro	Trp	Phe	Ser	His
	50					55					60				
Ser	Lys	Lys	Thr	Leu	Glu	Gly	Gln	Arg	Ile	Tyr	Tyr	Ser	Gly	Asp	Ser
65				70						75				80	
Phe	Gly	Lys	Tyr	Phe	Val	Val	Ser	Ala	Leu	Trp	Pro	Asn	Lys	Val	Ser
				85					90				95		
Ser	Ala	Val	Val	Ala	Cys	Asn	Met	Ile	Leu	Lys	His	Arg	Val	Asp	Leu
			100					105					110		
Ile	Leu	Ile	Ile	Gly	Ser	Cys	Tyr	Ser	Arg	Ser	Gln	Asp	Ser	Arg	Phe
		115					120					125			
Gly	Ser	Val	Leu	Val	Ser	Lys	Gly	Tyr	Ile	Asn	Tyr	Asp	Ala	Asp	Val
		130				135					140				
Arg	Pro	Phe	Phe	Glu	Arg	Phe	Glu	Ile	Pro	Asp	Ile	Lys	Lys	Ser	Val
145				150						155					160
Phe	Ala	Thr	Ser	Glu	Val	His	Arg	Glu	Ala	Ile	Leu	Arg	Gly	Gly	Glu
				165					170					175	
Glu	Phe	Ile	Ser	Thr	His	Lys	Gln	Glu	Ile	Glu	Glu	Leu	Leu	Lys	Thr
			180					185					190		
His	Gly	Tyr	Leu	Lys	Ser	Thr	Thr	Lys	Thr	Glu	His	Thr	Leu	Met	Glu
		195					200					205			
Gly	Leu	Val	Ala	Thr	Gly	Glu	Ser	Phe	Ala	Met	Ser	Arg	Asn	Tyr	Phe
	210					215					220				
Leu	Ser	Leu	Gln	Lys	Leu	Tyr	Pro	Glu	Ile	His	Gly	Phe	Asp	Ser	Val
225					230					235					240

Tyr Lys Asn Lys Asn Pro Gln Ala Leu Asp Lys Glu Tyr Glu Ala Phe
 195 200 205
 Ser Gln Ser Phe Lys Ile Thr Lys Ile Arg Glu Pro Arg Thr Ile Pro
 210 215 220
 Ser Ser Val Lys Lys Lys Val Ser Leu
 225 230

<210> 237
 <211> 261
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0235

 <400> 237
 Val Phe Val Arg Tyr Leu Leu Met Lys Pro Glu Glu Ser Glu Cys Leu
 1 5 10 15
 Cys Ile Gly Val Leu Pro Ala Arg Trp Asn Ser Ser Arg Tyr Pro Gly
 20 25 30
 Lys Pro Leu Ala Lys Ile His Gly Lys Ser Leu Ile Gln Arg Thr Tyr
 35 40 45
 Glu Asn Ala Ser Gln Ser Ser Leu Leu Asp Lys Ile Val Val Ala Thr
 50 55 60
 Asp Asp Gln His Ile Ile Asp His Val Thr Asp Phe Gly Gly Tyr Ala
 65 70 75 80
 Val Met Thr Ser Pro Thr Cys Ser Asn Gly Thr Glu Arg Thr Gly Glu
 85 90 95
 Val Ala Arg Lys Tyr Phe Pro Lys Ala Glu Ile Ile Val Asn Ile Gln
 100 105 110
 Gly Asp Glu Pro Cys Leu Asn Ser Glu Val Val Asp Ala Leu Val Gln
 115 120 125
 Lys Leu Arg Ser Ser Pro Glu Ala Glu Leu Val Thr Pro Val Ala Leu
 130 135 140
 Thr Thr Asp Arg Glu Glu Ile Leu Thr Glu Lys Lys Val Lys Cys Val
 145 150 155 160
 Phe Asp Ser Glu Gly Arg Ala Leu Tyr Phe Ser Arg Ser Pro Ile Pro
 165 170 175
 Phe Ile Leu Lys Lys Ala Thr Pro Val Tyr Leu His Ile Gly Val Tyr
 180 185 190
 Ala Phe Lys Arg Glu Ala Leu Phe Arg Tyr Leu Gln His Ser Ser Thr
 195 200 205
 Pro Leu Ser Asp Ala Glu Asp Leu Glu Gln Leu Arg Phe Leu Glu His
 210 215 220
 Gly Gly Lys Ile His Val Cys Ile Val Asp Ala Lys Ser Pro Ser Val
 225 230 235 240
 Asp Tyr Pro Glu Asp Ile Ala Lys Val Glu Gln Tyr Ile Thr Cys Leu
 245 250 255
 Ser Asn Ala Tyr Phe
 260

<210> 238
 <211> 543
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0236

<400> 238

Ser	Arg	Thr	Ile	Tyr	His	Met	Pro	Phe	Lys	Cys	Ile	Phe	Leu	Thr	Gly
1				5					10					15	
Gly	Val	Val	Ser	Ser	Leu	Gly	Lys	Gly	Leu	Thr	Ala	Ala	Ser	Leu	Ala
			20					25					30		
Leu	Ile	Leu	Glu	Arg	Gln	Arg	Leu	Asn	Val	Ala	Met	Leu	Lys	Leu	Asp
		35					40					45			
Pro	Tyr	Leu	Asn	Val	Asp	Pro	Gly	Thr	Met	Asn	Pro	Phe	Glu	His	Gly
	50				55					60					
Glu	Ile	Tyr	Val	Thr	Asp	Asp	Gly	Val	Glu	Thr	Asp	Leu	Asp	Leu	Gly
65				70					75					80	
His	Tyr	His	Arg	Phe	Ser	Ser	Ala	Ala	Leu	Ser	Arg	His	Ser	Ser	Ala
			85						90					95	
Thr	Ser	Gly	Gln	Ile	Tyr	Ala	Arg	Val	Ile	Lys	Arg	Glu	Arg	Glu	Gly
			100					105					110		
Asp	Tyr	Leu	Gly	Ser	Thr	Val	Gln	Val	Ile	Pro	His	Ile	Thr	Asn	Glu
		115					120					125			
Ile	Ile	Gln	Val	Ile	Leu	Asp	Ala	Ala	Lys	Glu	His	Ser	Pro	Asp	Val
	130					135					140				
Leu	Ile	Val	Glu	Ile	Gly	Gly	Thr	Ile	Gly	Asp	Ile	Glu	Ser	Leu	Pro
145				150					155					160	
Phe	Leu	Glu	Ala	Ile	Arg	Gln	Phe	Arg	Tyr	Asp	His	Ser	Glu	Asp	Cys
			165					170					175		
Leu	Asn	Ile	His	Met	Thr	Tyr	Val	Pro	Tyr	Leu	Gln	Ala	Ala	Asp	Glu
			180					185					190		
Val	Lys	Ser	Lys	Pro	Thr	Gln	His	Ser	Val	Gln	Thr	Leu	Arg	Gly	Ile
	195					200					205				
Gly	Ile	Ile	Pro	Asp	Ala	Ile	Leu	Cys	Arg	Ser	Glu	Lys	Pro	Leu	Thr
	210				215						220				
Gln	Glu	Val	Lys	Ser	Lys	Ile	Ser	Leu	Phe	Cys	Asn	Val	Pro	Asn	Arg
225				230						235				240	
Ala	Val	Phe	Asn	Val	Ile	Asp	Val	Lys	His	Thr	Ile	Tyr	Glu	Met	Pro
			245						250				255		
Leu	Met	Leu	Ala	Gln	Glu	Lys	Ile	Ala	Asn	Phe	Ile	Gly	Glu	Lys	Leu
		260						265					270		
Lys	Leu	Ala	Thr	Val	Pro	Glu	Asn	Leu	Asp	Asp	Trp	Lys	Val	Leu	Val
	275					280						285			
Asn	Gln	Leu	Ser	Gln	Asp	Leu	Pro	Lys	Val	Lys	Ile	Gly	Val	Val	Gly
	290				295						300				
Lys	Tyr	Val	Gln	His	Arg	Asp	Ala	Tyr	Lys	Ser	Ile	Phe	Glu	Ala	Leu
305				310						315				320	
Thr	His	Ala	Ala	Leu	Arg	Leu	Gly	His	Ala	Ala	Glu	Ile	Ile	Pro	Ile
			325						330					335	
Asp	Ala	Glu	Asp	Glu	Asn	Leu	Thr	Met	Glu	Leu	Ser	Gln	Cys	Asp	Ala
		340						345					350		
Cys	Leu	Val	Pro	Gly	Gly	Phe	Gly	Val	Arg	Gly	Trp	Glu	Gly	Lys	Ile
	355					360						365			
Ala	Ala	Ala	Lys	Phe	Cys	Arg	Glu	Gln	Gly	Ile	Pro	Tyr	Phe	Gly	Ile
	370				375						380				
Cys	Leu	Gly	Met	Gln	Val	Leu	Val	Val	Glu	Tyr	Ala	Arg	Asn	Val	Leu
385				390						395				400	
Asn	Leu	Asp	Gln	Ala	Asn	Ser	Leu	Glu	Met	Asp	Pro	Asn	Thr	Pro	His
			405						410				415		
Pro	Ile	Val	Tyr	Val	Met	Glu	Gly	Gln	Asp	Pro	Leu	Val	Ala	Thr	Gly
		420						425					430		
Gly	Thr	Met	Arg	Leu	Gly	Ala	Tyr	Pro	Cys	Leu	Leu	Lys	Pro	Gly	Ser
	435						440					445			
Lys	Ala	His	Lys	Ala	Tyr	Asn	Glu	Ser	Ser	Leu	Ile	Gln	Glu	Arg	His
	450					455					460				
Arg	His	Arg	Tyr	Glu	Val	Asn	Pro	Asp	Tyr	Ile	Gln	Ser	Leu	Glu	Asp
465					470					475				480	

His	Gly	Leu	Arg	Ile	Val	Gly	Thr	Cys	Pro	Pro	Gln	Gly	Leu	Cys	Glu
				485					490					495	
Ile	Ile	Glu	Val	Ser	Asp	His	Pro	Trp	Met	Ile	Gly	Val	Gln	Phe	His
			500					505					510		
Pro	Glu	Phe	Val	Ser	Lys	Leu	Ile	Ser	Pro	His	Pro	Leu	Phe	Ile	Ala
		515					520					525			
Phe	Ile	Glu	Ala	Ala	Leu	Val	Tyr	Ser	Lys	Asp	Ala	Ser	His	Val	
	530					535					540				

<210> 239
 <211> 158
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0237

Ser	Ile	Leu	Arg	Met	Gln	Ala	Met	Ser	Lys	Pro	Ser	Ser	Cys	Lys	Ala
1				5					10					15	
Tyr	Leu	Gly	Ile	Asp	Tyr	Gly	Lys	Lys	Arg	Ile	Gly	Leu	Ala	Tyr	Ala
			20					25					30		
Ala	Glu	Pro	Leu	Leu	Leu	Thr	Leu	Pro	Ile	Gly	Asn	Ile	Glu	Ala	Gly
		35					40					45			
Lys	Asn	Leu	Lys	Leu	Ser	Ala	Glu	Ala	Leu	His	Lys	Ile	Ile	Leu	Ser
	50					55					60				
Arg	Asn	Ile	Thr	Cys	Val	Val	Leu	Gly	Asn	Pro	Leu	Pro	Met	Gln	Lys
65					70					75				80	
Gly	Leu	Tyr	Ser	Ser	Leu	Gln	Glu	Glu	Val	Ser	Leu	Leu	Ala	Glu	Glu
				85					90					95	
Leu	Lys	Lys	Leu	Ser	Thr	Val	Glu	Ile	Ile	Leu	Trp	Asp	Glu	Arg	Leu
			100					105					110		
Ser	Ser	Val	Gln	Ala	Glu	Arg	Met	Leu	Lys	Gln	Asp	Cys	Gly	Leu	Ser
		115					120					125			
Arg	Lys	Asp	Arg	Lys	Gly	Lys	Thr	Asp	Ser	Leu	Ala	Ala	Thr	Leu	Ile
	130					135					140				
Leu	Thr	Ser	Phe	Leu	Asp	Ser	Leu	Pro	Lys	Lys	Leu	Thr	Leu		
145					150						155				

<210> 240
 <211> 543
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0238

Pro	Cys	Asn	His	Gln	Lys	Leu	Arg	Asp	Phe	Asn	Phe	Arg	Asn	Phe	Leu
1				5					10					15	
Leu	Phe	Val	Ile	Phe	Ala	Ser	Ala	Gly	Thr	Lys	Lys	Glu	Ile	Lys	Met
			20					25					30		
Thr	Asn	Val	Val	Gln	Glu	Thr	Ile	Gly	Gly	Leu	Asn	Ser	Pro	Arg	Thr
		35					40					45			
Cys	Pro	Pro	Cys	Ile	Leu	Val	Ile	Phe	Gly	Ala	Thr	Gly	Asp	Leu	Thr
	50					55					60				
Ala	Arg	Lys	Leu	Leu	Pro	Ala	Leu	Tyr	His	Leu	Thr	Lys	Glu	Gly	Arg
65					70					75				80	
Leu	Ser	Asp	Gln	Phe	Val	Cys	Val	Gly	Phe	Ala	Arg	Arg	Glu	Lys	Ser
				85					90					95	

Asn	Glu	Leu	Phe	Arg	Gln	Glu	Met	Lys	Gln	Ala	Val	Ile	Gln	Phe	Ser
			100					105					110		
Pro	Ser	Glu	Leu	Asp	Ile	Lys	Val	Trp	Glu	Asp	Phe	Gln	Gln	Arg	Leu
		115					120					125			
Phe	Tyr	His	Arg	Ser	Glu	Phe	Asp	Asn	Asn	Met	Gly	Tyr	Thr	Ser	Leu
	130					135					140				
Lys	Asp	Ser	Leu	Glu	Asp	Leu	Asp	Lys	Thr	Tyr	Gly	Thr	Arg	Gly	Asn
	145				150					155					160
Arg	Leu	Phe	Tyr	Leu	Ser	Thr	Pro	Pro	Gln	Tyr	Phe	Ser	Arg	Ile	Ile
				165					170					175	
Glu	Asn	Leu	Asn	Lys	His	Lys	Leu	Phe	Tyr	Lys	Asn	Gln	Asp	Gln	Gly
			180					185					190		
Lys	Pro	Trp	Ser	Arg	Val	Ile	Ile	Glu	Lys	Pro	Phe	Gly	Arg	Asp	Leu
		195					200					205			
Asp	Ser	Ala	Lys	Gln	Leu	Gln	Gln	Cys	Ile	Asn	Glu	Asn	Leu	Asn	Glu
	210					215					220				
Asn	Ser	Val	Tyr	His	Ile	Asp	His	Tyr	Leu	Gly	Lys	Glu	Thr	Val	Gln
	225				230					235					240
Asn	Ile	Leu	Thr	Thr	Arg	Phe	Ala	Asn	Thr	Ile	Phe	Glu	Ser	Cys	Trp
				245					250					255	
Asn	Ser	Gln	Tyr	Ile	Asp	His	Val	Gln	Ile	Ser	Leu	Ser	Glu	Thr	Ile
			260					265					270		
Gly	Ile	Gly	Ser	Arg	Gly	Asn	Phe	Phe	Glu	Lys	Ser	Gly	Met	Leu	Arg
		275					280					285			
Asp	Met	Val	Gln	Asn	His	Met	Met	Gln	Leu	Leu	Cys	Leu	Leu	Thr	Met
	290					295					300				
Glu	Pro	Pro	Thr	Thr	Phe	Asp	Ala	Asp	Glu	Ile	Arg	Lys	Glu	Lys	Ile
	305				310					315					320
Lys	Ile	Leu	Gln	Arg	Ile	Ser	Pro	Phe	Ser	Glu	Gly	Ser	Ser	Ile	Val
			325						330					335	
Arg	Gly	Gln	Tyr	Gly	Pro	Gly	Thr	Val	Gln	Gly	Val	Ser	Val	Leu	Gly
		340						345					350		
Tyr	Arg	Glu	Glu	Glu	Asn	Val	Asp	Lys	Asp	Ser	Arg	Val	Glu	Thr	Tyr
		355					360					365			
Val	Ala	Leu	Lys	Thr	Val	Ile	Asn	Asn	Pro	Arg	Trp	Leu	Gly	Val	Pro
	370					375					380				
Phe	Tyr	Leu	Arg	Ala	Gly	Lys	Arg	Leu	Ala	Lys	Lys	Ser	Thr	Asp	Ile
	385				390					395					400
Ser	Ile	Ile	Phe	Lys	Lys	Ser	Pro	Tyr	Asn	Leu	Phe	Ala	Ala	Glu	Glu
			405						410					415	
Cys	Ser	Arg	Cys	Pro	Ile	Glu	Asn	Asp	Leu	Leu	Ile	Ile	Arg	Ile	Gln
			420					425					430		
Pro	Asp	Glu	Gly	Val	Ala	Leu	Lys	Phe	Asn	Cys	Lys	Val	Pro	Gly	Thr
		435					440					445			
Asn	Asn	Ile	Val	Arg	Pro	Val	Lys	Met	Asp	Phe	Arg	Tyr	Asp	Ser	Tyr
		450				455					460				
Phe	Gln	Thr	Thr	Thr	Pro	Glu	Ala	Tyr	Glu	Arg	Leu	Leu	Cys	Asp	Cys
	465				470					475					480
Ile	Ile	Gly	Asp	Arg	Thr	Leu	Phe	Thr	Gly	Gly	Asp	Glu	Val	Met	Ala
			485						490					495	
Ser	Trp	Lys	Leu	Phe	Thr	Pro	Val	Leu	Glu	Glu	Trp	Asp	Gln	Asp	Ser
			500					505					510		
Ser	Pro	Ser	Phe	Pro	Asn	Tyr	Pro	Ala	Gly	Ser	Ser	Gly	Pro	Lys	Glu
		515					520					525			
Ala	Asp	Ala	Leu	Ile	Glu	Arg	Asp	Gly	Arg	Ser	Trp	Arg	Pro	Leu	
	530					535					540				

<210> 241

<211> 270

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0239

<400> 241

Lys	Ser	Ile	Ser	Met	Thr	Asn	Ile	Gly	Ile	Glu	Thr	Met	Ala	Thr	Leu
1				5					10					15	
Ile	Asn	Phe	Asn	Asp	Thr	Asn	Lys	Leu	Leu	Leu	Thr	Lys	Gln	Pro	Ser
			20					25					30		
Leu	Phe	Ile	Asp	Leu	Ala	Ser	Lys	Asp	Trp	Ile	Ala	Ser	Ala	Asn	Gln
		35					40					45			
Ala	Ile	Lys	Gln	Arg	Gly	Ala	Phe	Tyr	Val	Ala	Leu	Ser	Gly	Gly	Lys
	50					55				60					
Thr	Pro	Leu	Glu	Ile	Tyr	Lys	Asp	Ile	Val	Ile	Asn	Lys	Asp	Lys	Leu
65					70					75					80
Ile	Asp	Pro	Ser	Lys	Ile	Phe	Leu	Phe	Trp	Gly	Asp	Glu	Arg	Leu	Ala
				85					90					95	
Pro	Ile	Thr	Ser	Ser	Glu	Ser	Asn	Tyr	Gly	Gln	Ala	Met	Ser	Ile	Leu
			100					105					110		
Arg	Asp	Leu	Asn	Ile	Pro	Asp	Glu	Gln	Ile	Phe	Arg	Met	Glu	Thr	Glu
		115					120					125			
Asn	Pro	Asp	Gly	Ala	Lys	Lys	Tyr	Gln	Glu	Leu	Ile	Glu	Asn	Lys	Ile
	130					135					140				
Pro	Asp	Ala	Ser	Phe	Asp	Met	Ile	Met	Leu	Gly	Leu	Gly	Glu	Asp	Gly
145					150					155					160
His	Thr	Leu	Ser	Leu	Phe	Ser	Asn	Thr	Ser	Ala	Leu	Glu	Glu	Glu	Asn
				165					170					175	
Asp	Leu	Val	Val	Phe	Asn	Ser	Val	Pro	His	Leu	Glu	Thr	Glu	Arg	Met
			180					185					190		
Thr	Leu	Thr	Phe	Pro	Cys	Val	His	Lys	Gly	Lys	His	Val	Val	Val	Tyr
		195					200					205			
Val	Gln	Gly	Glu	Asn	Lys	Lys	Pro	Ile	Leu	Lys	Ser	Val	Phe	Phe	Ser
	210					215					220				
Glu	Gly	Arg	Glu	Glu	Lys	Leu	Tyr	Pro	Ile	Glu	Arg	Val	Gly	Arg	Asp
225					230					235					240
Arg	Ser	Pro	Leu	Phe	Trp	Ile	Ile	Ser	Pro	Glu	Ser	Tyr	Asp	Ile	Ala
				245					250					255	
Asp	Phe	Asp	Asn	Ile	Ser	Ser	Ile	Tyr	Lys	Met	Asp	Ile	Leu		
			260					265					270		

<210> 242

<211> 388

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0240

<400> 242

Leu	Val	Tyr	Phe	Met	Val	Phe	Ser	Pro	Ser	Ser	Glu	Ser	Val	Val	Lys
1				5					10					15	
Ala	Asn	Ser	Val	Val	Arg	Ser	Asn	Phe	Cys	Tyr	Phe	Leu	Glu	Asn	Lys
			20					25					30		
Phe	Val	Ser	Pro	Ser	Glu	Ser	Thr	Glu	Val	Met	Phe	Ser	Glu	Ile	Met
		35					40					45			
Lys	Gly	Arg	Val	Pro	Asp	Ile	Glu	Ser	Leu	Phe	Asp	Arg	Pro	Thr	Asp
	50					55					60				
Met	Met	Met	Thr	Gly	Phe	Lys	Ala	Ala	Gln	Asn	Leu	Gly	Asn	Leu	Phe
65					70					75					80
Asn	Ser	Phe	Gly	Ile	Leu	Ile	Met	Cys	Phe	Ser	Gln	Cys	Lys	Ser	Cys
				85					90					95	

Gln Thr Pro Glu Lys Glu Thr Ser Ala Ile Val Leu Gly Ala Thr Leu
 100 105 110
 Leu Phe Phe Val Val Ala Leu Ile Leu Gly Pro Thr Leu Gly Ala Leu
 115 120 125
 Val Tyr Cys Ala Tyr Lys Val Tyr Thr Leu Gly Lys Met Ile Tyr Ser
 130 135 140
 Leu Asn Lys Ala Lys Ala Lys Val Leu Arg His Pro Ala Gln Asn Val
 145 150 155 160
 Phe His Arg Ala Ala Gly Val Ala Thr Ile Arg Ser Ser Glu Glu Ala
 165 170 175
 Val Lys Ala Cys Lys Leu Tyr Lys Ser Ala Met Ile Gly Ser Leu Val
 180 185 190
 Val Ser Leu Ile Ala Ser Leu Ala Leu Ile Ala Leu Thr Ala Gly Ile
 195 200 205
 Val Leu Val Leu Phe Phe Val Ala Pro Gly Ala Ala Pro Val Ile Thr
 210 215 220
 Ala Ala Met Met Gly Cys Cys Ala Ala Gly Gly Gly Ala Leu Leu Ile
 225 230 235 240
 Ser Leu Leu Gly Leu Trp Ile Ala Ile Val Arg Lys Ala Lys His Gln
 245 250 255
 Glu Ala Cys Val Gly His Leu Thr Asn Val Val Leu His Thr Ala Val
 260 265 270
 Ser Glu Ala Leu Leu His Asp Pro Ser His Phe Gln Thr Asn Ala Leu
 275 280 285
 Ala Arg Asp Leu Phe Leu Thr Asp Cys Leu Ser His Tyr Gly His Leu
 290 295 300
 Phe Ser Asn Glu Glu Val Ala Gln Leu Val Gln Gly Gly Ala Pro Gly
 305 310 315 320
 Gly Gly Ser Arg Pro Ser Gln His Tyr Gly Gly Ser Ser Asp Tyr Gln
 325 330 335
 Asn Arg Arg Gly Gly Asn Gly Asn Phe Gly Gly Ser His Phe Gly Gly
 340 345 350
 Gly Gly Gly Phe Ala Gly Ser His Phe Gly Ala Gly Tyr Pro Thr Ala
 355 360 365
 Pro Thr Met Pro Ser Ala Pro Pro Phe Pro Pro Pro Ala Tyr Asp
 370 375 380
 Thr Ile Tyr Gly
 385

<210> 243
 <211> 390
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0241

<400> 243
 Ile Phe Leu Val Lys Phe Met Ser Ala Met Ile Ser Leu Ser Ser Ser
 1 5 10 15
 His Glu Ala Ser Ile Ala Ser Asn Thr Gln Val Arg Asp Val Leu Val
 20 25 30
 Ser Leu Ala Met Asp Glu Phe Val Glu His Asn Thr Glu Ile Leu Pro
 35 40 45
 Ile Lys Val Phe Leu Ala Arg Gly Thr Leu Ser Ser Thr Ala Ile Ile
 50 55 60
 Asp Asp Leu Lys Asp Val Val Glu Thr Glu Gly Glu His His Phe Gln
 65 70 75 80
 Val Tyr Ser Asn Ile Ser Leu Lys Met Ile Tyr Gln Arg Phe Phe Glu
 85 90 95

Lys Ile Phe Gly Ile Gly Cys Cys Pro Leu Leu Leu Val Thr Asp Ser
 100 105 110
 His His Thr Asp Pro Cys Gly Ala Leu Ile Thr Gly Ile Phe Ala Ala
 115 120 125
 Val Leu Phe Thr Val Leu Ala Ile Val Phe Gly Pro Thr Leu Gly Ile
 130 135 140
 Leu Cys Tyr Ser Ala Tyr Lys Ile Tyr Gln Leu Thr Lys Lys Ile Ser
 145 150 155 160
 Ser Leu Ser Arg Thr His Thr Glu Val Ile Asn Ser Val Gln Lys Ser
 165 170 175
 Asp Pro Phe Ile His Arg Ser Gly Ala Val Ala Ala Ala Ala Ser
 180 185 190
 Gln Ser Thr Ile Lys Ala Cys Lys Val Phe Arg Gln Ser Thr Leu Ile
 195 200 205
 Phe Phe Val Leu Gly Leu Ile Ile Thr Ile Ser Leu Ala Ala Leu Ile
 210 215 220
 Val Gly Leu Val Phe Ala Leu Phe Phe Leu Asp Pro Gly Ala Pro Ala
 225 230 235 240
 Val Met Thr Ala Ala Met Ile Gly Cys Cys Ala Ala Gly Gly Thr Gly
 245 250 255
 Ile Leu Leu Ser Val Ile Gly Phe Leu Leu Ala Ser Val Tyr Ser Val
 260 265 270
 Gln Lys Ser Gln Glu Gly Val His His Met His Thr Ala Leu Leu Arg
 275 280 285
 Cys Ile Val Ser Asn Thr Ile Ile Gln Met Pro Tyr Leu Pro Ile Thr
 290 295 300
 Pro Gly Thr Lys Lys Val Leu Thr Gln Ser Ile Arg Arg Tyr Gln Gln
 305 310 315 320
 Phe Phe Ser Asp Asp Glu Tyr Arg Asp Ile Glu Ser Glu Val Pro Leu
 325 330 335
 Asn Arg Gln Thr Thr Pro Pro Pro Ser Tyr Glu Thr Leu Phe His Glu
 340 345 350
 Glu Gly Ser Asp Gly Ser Ser Asn Val Ile Pro Arg Glu Ser Pro Pro
 355 360 365
 Ala Tyr Ser Thr Ile Asp Ser Ser Asn Ser Pro Phe Pro Ser Ser Ser
 370 375 380
 Pro Pro Pro Tyr Tyr Arg
 385 390

<210> 244
 <211> 163
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0242

<400> 244
 Lys Ser Leu Lys Tyr Cys Ser Leu Tyr Gln Phe Ser Gln Lys Pro Thr
 1 5 10 15
 Val Ile Leu Met Ala Cys Ser Ile Phe Phe Arg Met Ser Gln Gly Asp
 20 25 30
 Tyr Asp Asp Glu Pro Leu Ser Lys Lys Thr Ala Cys Leu Val Val Asp
 35 40 45
 Thr Met Leu Tyr Pro Val Ile Ala Val Val Cys Ala Val Val Ser Val
 50 55 60
 Val Leu Leu Ile Leu Lys Val Leu Phe Leu Leu Ser Phe Pro Phe
 65 70 75 80
 Lys Leu Cys Ser Ala Ser Ser Ala Leu Pro Gly Glu Arg Val Ser Leu
 85 90 95

Gly Ser His Phe Lys Cys Leu Tyr Gly Gly Gly Leu Pro Tyr Leu Leu
 100 105 110
 Ala Cys Leu Leu Ile Val Pro Val Ile Gly Thr Ala Ile His Gly Phe
 115 120 125
 Ile Ile Ser His Arg Thr Ser Glu Asp Ala Arg Leu Ser Ser Ala Ile
 130 135 140
 Val Phe Met Gln Ala Pro Ile Leu Gln Leu Ala Gly Met Ser Gly Leu
 145 150 155 160
 Ile Lys Pro

<210> 245
 <211> 159
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0243

<400> 245
 Ile Asn Tyr Asn Tyr Leu Val Phe Leu Leu Lys Phe Val Lys Gly Arg
 1 5 10 15
 Ile Ile Met Ala Cys Ser Ile Gly Tyr His Leu Cys Asn Ala Asn Glu
 20 25 30
 Pro Asp Arg Phe Val Ala Ser Lys Val Ala Leu Val Ala Asp Ile Leu
 35 40 45
 Leu Tyr Pro Phe Met Ala Val Ile Cys Ala Val Val Phe Ala Val Leu
 50 55 60
 Met Val Val Lys Leu Leu Phe Leu Ala Ile Lys Phe Leu Val Asn Thr
 65 70 75 80
 Cys Ile Ala Ala Cys Lys Ser Arg Pro Leu Pro Ser Cys Lys Glu Asn
 85 90 95
 Phe Gln Cys Leu Phe Gly Pro Lys Asp Lys Pro Gly Pro Ser Asp Trp
 100 105 110
 Leu Gly Cys Leu Val Leu Ile Pro Ile Ile Gly Thr Leu Ile Tyr Ser
 115 120 125
 Thr Ile Ile Thr Val Gln Ser Asp Thr Asn Arg Leu Arg Tyr Phe Ile
 130 135 140
 Ile Ser Pro Ala Tyr Gln Val Gly Ser Thr Ala Ile Ile Asn Trp
 145 150 155

<210> 246
 <211> 217
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0244

<400> 246
 Gly Ala Phe Glu Val Thr Lys Gly Ser Val Phe Ile Ile Met Gly Pro
 1 5 10 15
 Pro Gly Ser Gly Lys Gly Thr Gln Ser Gln Tyr Leu Ala Asn Arg Ile
 20 25 30
 Gly Leu Pro His Ile Ser Thr Gly Asp Leu Leu Arg Ala Ile Ile Arg
 35 40 45
 Glu Gly Thr Pro Asn Gly Leu Lys Ala Lys Ala Tyr Leu Asp Lys Gly
 50 55 60
 Ala Phe Val Pro Ser Asp Phe Val Trp Glu Ile Leu Lys Glu Lys Leu
 65 70 75 80

Gln Ser Gln Ala Cys Ser Lys Gly Cys Ile Ile Asp Gly Phe Pro Arg
 85 90 95
 Thr Leu Asp Gln Ala His Leu Leu Asp Ser Phe Leu Met Asp Val His
 100 105 110
 Ser Asn Tyr Thr Val Ile Phe Leu Glu Ile Ser Glu Asp Glu Ile Leu
 115 120 125
 Lys Arg Val Cys Ser Arg Phe Leu Cys Pro Ser Cys Ser Arg Ile Tyr
 130 135 140
 Asn Thr Ser Gln Gly His Thr Glu Cys Pro Asp Cys His Val Pro Leu
 145 150 155 160
 Ile Arg Arg Ser Asp Asp Thr Pro Glu Ile Ile Lys Glu Arg Leu Thr
 165 170 175
 Lys Tyr Gln Glu Arg Thr Ala Pro Val Ile Ala Tyr Tyr Asp Ser Leu
 180 185 190
 Gly Lys Leu Cys Arg Val Ser Ser Glu Asn Lys Glu Asp Leu Val Phe
 195 200 205
 Glu Asp Ile Leu Lys Cys Ile Tyr Lys
 210 215

<210> 247
 <211> 291
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0245

<400> 247
 Thr Cys Gln Lys Glu Ile Met Lys His Tyr Leu Ser Phe Ser Pro Ser
 1 5 10 15
 Ala Asp Phe Phe Ser Lys Gln Gly Ala Ile Glu Thr Gln Val Leu Phe
 20 25 30
 Gly Glu Arg Val Leu Val Lys Gly Ser Thr Cys Tyr Ala Tyr Ser Gln
 35 40 45
 Leu Phe His Asn Glu Leu Leu Trp Lys Pro Tyr Pro Gly His Ser Phe
 50 55 60
 Arg Ser Thr Leu Val Pro Cys Thr Pro Glu Phe His Ile His Pro Asn
 65 70 75 80
 Val Ser Val Val Ser Val Asp Ala Phe Leu Asp Pro Trp Gly Ile Pro
 85 90 95
 Leu Pro Phe Gly Thr Leu Leu His Val Asn Ser Gln Asn Thr Val Ile
 100 105 110
 Phe Pro Lys Asp Ile Leu Asn His Met Asn Thr Ile Trp Gly Ser Gly
 115 120 125
 Thr Pro Gln Cys Asp Pro Arg His Leu Arg Arg Leu Asn Tyr Asn Phe
 130 135 140
 Phe Ala Glu Leu Leu Ile Lys Asp Ala Asp Leu Leu Leu Asn Phe Pro
 145 150 155 160
 Tyr Val Trp Gly Gly Arg Ser Val His Glu Ser Leu Glu Lys Pro Gly
 165 170 175
 Val Asp Cys Ser Gly Phe Ile Asn Ile Leu Tyr Gln Ala Gln Gly Tyr
 180 185 190
 Asn Val Pro Arg Asn Ala Ala Asp Gln Tyr Ala Asp Cys His Trp Ile
 195 200 205
 Ser Ser Phe Glu Asn Leu Pro Ser Gly Gly Leu Ile Phe Leu Tyr Pro
 210 215 220
 Lys Glu Glu Lys Arg Ile Ser His Val Met Leu Lys Gln Asp Ser Ser
 225 230 235 240
 Thr Leu Ile His Ala Ser Gly Gly Gly Lys Lys Val Glu Tyr Phe Ile
 245 250 255

Gln Leu Lys Ser Leu Arg Ile Val Lys Gly Asp Ser Tyr Gln Thr phe
130
135
140
Gln Ser Gln Lys Pro Ile Leu Leu Asp Ile
145
150

<210> 250

<211> 268

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPN0248

<400> 250

Arg Ser Pro Gly Tyr Leu Gln Ser Arg Val Arg Tyr Ala Thr phe
1
5
10
Ser Arg Ser phe Arg Lys Ser Arg Lys Asn Ala
20
25
30
Cys Leu Arg Asn phe Lys Ser Arg Leu Ala Met Ser Leu Leu Ile Gln
35
40
45
Ala Lys Asn Leu Ser Lys Thr Ile Gln Gln Asn Gln Asn Ile Ser
50
55
Ile Leu Thr Asp Val Ser Leu Ser Leu His Ala Gly Gln Thr Ile Ser
60
65
Ile Thr Gly Ala Ser Gly Asn Gly Lys Thr Thr Leu Leu His Leu Leu
70
75
80
Gly Thr Gly Ala Ser Gly Asn Gly Lys Thr Thr Leu Leu His Leu Leu
85
90
Gly Thr Leu Asp Val Pro Ser Ser Gly Ser Leu Arg phe phe Asp Lys
95
100
Asp Leu Lys Asn Gln Asp Leu Ala Asn phe Arg Asn Gln His Ile Gly
105
110
115
120
125
130
135
140
145
150
155
160
165
170
175
180
185
190
195
200
205
210
215
220
225
230
235
240
245
250
255
Val Leu Ser Asn Gly Lys Leu phe phe His Asn Ser
260
265

<210> 251

<211> 506

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPN0249

<400> 251

Leu Gln Val Met Lys phe Gln phe Ser Val Ala Leu Lys Tyr Leu Ile
1
5
10
15

Pro Gly Arg Gly Arg Leu Tyr Ser Ala Ile Val Ser Leu Phe Ser Val
 20 25 30
 Gly Ile Ile Ser Leu Val Val Trp Leu Ser Ile Val Phe Ile Ser Val
 35 40 45
 Ile His Gly Leu Glu Gln Arg Trp Ile Glu Asp Leu Ser Gln Leu His
 50 55 60
 Ser Pro Ile Thr Ile Leu Pro Ser Asp Thr Tyr Tyr Ser Ser Tyr Tyr
 65 70 75 80
 Tyr Gln Ile Asp Lys His Ser Ser Leu Ser Asn Tyr Thr Thr Lys Thr
 85 90 95
 Leu Gly Glu Lys Ile Ala Ser Pro Gln Val Asp Pro Tyr Asp Pro Glu
 100 105 110
 Ser Asp Tyr Leu Leu Pro Glu Thr Phe Pro Leu Lys Asp Cys Asp Leu
 115 120 125
 Gly Gly Gln Gln Lys Asp Pro Val Lys Met Thr Leu Glu Ser Leu Gly
 130 135 140
 Pro Tyr Leu Gln Ser Gln His Gly Lys Val Ile Glu Phe Glu Gln Gly
 145 150 155 160
 Val Gly Tyr Leu Asp Ile Lys Thr Ser Leu Lys Leu Gln Lys Pro Gln
 165 170 175
 Pro Arg Asn Leu Thr His Phe Leu Thr Tyr Pro Ser Lys Leu Ser Tyr
 180 185 190
 Glu Asp Lys Val Leu Pro Tyr Asp Glu Thr Asp Tyr Thr Ser Ala Glu
 195 200 205
 Leu Asn Pro Phe Asn Arg Ser Pro Ser Gly Trp Gln Gln Asp Phe His
 210 215 220
 His Leu Glu Glu Leu Tyr Arg Gly Ala Ser Ile Ile Leu Pro Ser Thr
 225 230 235 240
 Tyr Lys Asp Ser Gly Tyr Lys Val Gly Asp Thr Gly Val Phe Ser Thr
 245 250 255
 Tyr Ser Ile Glu Asn Glu Lys Glu Thr Gln Tyr Thr Val His Val Ile
 260 265 270
 Gly Phe Tyr Asn Pro Gly Leu Ser Pro Leu Gly Gly Arg Thr Val Phe
 275 280 285
 Ile Asp Pro Asp Leu Ala Arg Ser Ile Arg Ser Gln Ser Glu Gly Leu
 290 295 300
 Gly Met Ser Asn Gly Phe His Leu Phe Phe Pro Asn Thr Lys Arg Ile
 305 310 315 320
 Val Phe Val Lys Lys Gln Ile Glu Asn Ile Leu Thr Ser Leu Gly Val
 325 330 335
 Asp Asp Tyr Trp Glu Ile Ser Ser Leu His Asp Tyr Asp Tyr Phe Gln
 340 345 350
 Pro Ile Leu Asp Gln Leu Gln Ser Asp Gln Val Leu Phe Leu Phe Val
 355 360 365
 Cys Ile Leu Ile Leu Ile Val Ala Cys Ser Asn Ile Val Thr Met Ser
 370 375 380
 Met Leu Leu Val Asn Asn Lys Lys Lys Glu Ile Gly Ile Leu Lys Ala
 385 390 395 400
 Met Gly Thr Ser Ser Arg Ser Leu Lys Ile Ile Phe Ala Cys Cys Gly
 405 410 415
 Ala Phe Ser Gly Ala Cys Gly Val Val Ile Gly Thr Ile Phe Ala Ile
 420 425 430
 Ile Thr Leu Lys Asn Leu Gln Phe Ile Val Lys Ala Leu Asn Tyr Leu
 435 440 445
 Gln Gly Arg Glu Thr Phe Asn Thr Ala Phe Phe Gly Gln Asn Leu Pro
 450 455 460
 Asn Ser Val His Pro Gln Ala Ile Tyr Phe Leu Gly Leu Gly Thr Leu
 465 470 475 480
 Leu Leu Ala Ala Val Ser Gly Ala Leu Pro Ala Arg Lys Val Ala Lys
 485 490 495

Met His Val Ser Glu Ile Leu Lys Ala Asp
 500 505

<210> 252
 <211> 56
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0250

<400> 252
 Lys Asp Ser Ser Met Ala Ser Lys Asn Arg Glu Ile Ile Lys Leu Lys
 1 5 10 15
 Ser Ser Glu Ser Ser Asp Met Tyr Trp Thr Val Lys Asn Lys Arg Lys
 20 25 30
 Thr Thr Gly Arg Leu Glu Leu Lys Lys Tyr Asp Arg Lys Leu Arg Arg
 35 40 45
 His Val Ile Phe Lys Glu Ala Arg
 50 55

<210> 253
 <211> 508
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0251

<400> 253
 Ser Pro Asp Ser Cys Leu Pro Trp Met Ser Pro Phe Lys Lys Ile Val
 1 5 10 15
 Asn Arg Leu Leu Cys Tyr Ile Ser Phe Gln Lys Glu Ser Arg Thr Leu
 20 25 30
 Pro Ile Ile Ile Arg Glu Pro Arg Met Thr Thr Lys Ser Leu Gly Ser
 35 40 45
 Phe Asn Ser Val Ile Ser Lys Asn Lys Ile His Phe Ile Ser Leu Gly
 50 55 60
 Cys Ser Arg Asn Leu Val Asp Ser Glu Val Met Leu Gly Ile Leu Leu
 65 70 75 80
 Lys Ala Gly Tyr Glu Ser Thr Asn Glu Ile Glu Asp Ala Asp Tyr Leu
 85 90 95
 Ile Leu Asn Thr Cys Ala Phe Leu Lys Ser Ala Arg Asp Glu Ala Lys
 100 105 110
 Asp Tyr Leu Asp His Leu Ile Asp Val Lys Lys Glu Asn Ala Lys Ile
 115 120 125
 Ile Val Thr Gly Cys Met Thr Ser Asn His Lys Asp Glu Leu Lys Pro
 130 135 140
 Trp Met Ser His Ile His Tyr Leu Leu Gly Ser Gly Asp Val Glu Asn
 145 150 155 160
 Ile Leu Ser Ala Ile Glu Ser Arg Glu Ser Gly Glu Lys Ile Ser Ala
 165 170 175
 Lys Ser Tyr Ile Glu Met Gly Glu Val Pro Arg Gln Leu Ser Thr Pro
 180 185 190
 Lys His Tyr Ala Tyr Leu Lys Val Ala Glu Gly Cys Arg Lys Arg Cys
 195 200 205
 Ala Phe Cys Ile Ile Pro Ser Ile Lys Gly Lys Leu Arg Ser Lys Pro
 210 215 220
 Leu Asp Gln Ile Leu Lys Glu Phe Arg Ile Leu Val Asn Lys Ser Val
 225 230 235 240

Lys Glu Ile Ile Leu Ile Ala Gln Asp Leu Gly Asp Tyr Gly Lys Asp
 245 250 255
 Leu Ser Thr Asp Arg Ser Ser Gln Leu Glu Ser Leu Leu His Glu Leu
 260 265 270
 Leu Lys Glu Pro Gly Asp Tyr Trp Leu Arg Met Leu Tyr Leu Tyr Pro
 275 280 285
 Asp Glu Val Ser Asp Gly Ile Ile Asp Leu Met Gln Ser Asn Pro Lys
 290 295 300
 Leu Leu Pro Tyr Val Asp Ile Pro Leu Gln His Ile Asn Asp Arg Ile
 305 310 315 320
 Leu Lys Gln Met Arg Arg Thr Thr Ser Arg Glu Gln Ile Leu Gly Phe
 325 330 335
 Leu Glu Lys Leu Arg Ala Lys Val Pro Gln Val Tyr Ile Arg Ser Ser
 340 345 350
 Val Ile Val Gly Phe Pro Gly Glu Thr Gln Glu Glu Phe Gln Glu Leu
 355 360 365
 Ala Asp Phe Ile Gly Glu Gly Trp Ile Asp Asn Leu Gly Ile Phe Leu
 370 375 380
 Tyr Ser Gln Glu Ala Asn Thr Pro Ala Ala Glu Leu Pro Asp Gln Ile
 385 390 395 400
 Pro Glu Lys Val Lys Glu Ser Arg Leu Lys Ile Leu Ser Gln Ile Gln
 405 410 415
 Lys Arg Asn Val Asp Lys His Asn Gln Lys Leu Ile Gly Glu Lys Ile
 420 425 430
 Glu Ala Val Ile Asp Asn Tyr His Pro Glu Thr Asn Leu Leu Thr
 435 440 445
 Ala Arg Phe Tyr Gly Gln Ala Pro Glu Val Asp Pro Cys Ile Ile Val
 450 455 460
 Asn Glu Ala Lys Leu Val Ser His Phe Gly Glu Arg Cys Phe Ile Glu
 465 470 475 480
 Ile Thr Gly Thr Ala Gly Tyr Asp Leu Val Gly Arg Val Val Lys Lys
 485 490 495
 Ser Gln Asn Gln Ala Leu Leu Lys Thr Ser Lys Ala
 500 505

<210> 254
 <211> 179
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0252

<400> 254
 Ala Thr Ser Thr Val Cys Ala Leu Trp Ile Leu Gln Thr Tyr Gln Ser
 1 5 10 15
 His Asp Asp Ala Ala Ser Cys Ser Phe Arg Arg Ala Cys Arg Phe Gly
 20 25 30
 Arg Tyr Trp Leu Gly Gly Val Asn Val Pro Trp Asn Lys Phe Asn Gln
 35 40 45
 Thr Ser Thr Gln Ser Thr Val Ile Asn Ser Ala Ile Tyr Ile Asp Ser
 50 55 60
 Ser Gln Thr Trp Met Met Arg Phe Gln Ala Ser Ala Ser Ile Pro Arg
 65 70 75 80
 Leu Phe Arg Ile Ser Ile Phe Met Thr Lys His Gly Asp Trp Ile Asp
 85 90 95
 Asn Gly Thr Gly Gly Glu Leu Leu Leu Val Ala Tyr Glu Ala Asn Gln
 100 105 110
 Asn Pro Leu Phe Pro Asp Ile Arg Ile Glu Leu Ala Met Ser Thr Cys
 115 120 125

Ser Gly Thr Ser Tyr Tyr Arg Ala Arg Pro Met Gln Trp Leu Cys Ser
 130 135 140
 Thr Tyr Tyr Ala Val Arg Pro Gly Tyr Phe Val Leu Glu Asn Arg Ser
 145 150 155 160
 Tyr Ser Phe Arg Val Gln Ser Phe Ser Trp Asn Ile Ala Thr Leu Pro
 165 170 175
 Phe Val Asn

<210> 255
 <211> 175
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0253

<400> 255
 Phe Cys Gly Gly Arg Leu Met Ser Ser Ser Ile Pro Thr Thr Gln Lys
 1 5 10 15
 Ile Thr Ile Ser Ile Pro Thr Phe Val Arg Phe Asn Ile Glu Ser Ile
 20 25 30
 Asn Leu Thr Asp Glu Gln Lys Lys Thr Ala Leu Thr Ile Gly Gln Asn
 35 40 45
 Ile Ala Thr Glu Asn Thr Gln Val Leu Gly Asn Phe Val Asp Ala Asp
 50 55 60
 Gly Gly Leu Ile Cys Gln Asn Asp Leu Ser Val Gly Gly Asn Ile Asn
 65 70 75 80
 Ile Thr Pro Gln Thr Phe Asn Thr Met Val Phe Ser Gly Arg Val Asn
 85 90 95
 Leu Ser Asn Ser Pro Phe Ser Tyr Gln Asp Ser Leu Gly Asn Lys Arg
 100 105 110
 Gln Asp Tyr Ala Asn Ile Asn Thr Glu Gln Pro Gln Gln Tyr Val Pro
 115 120 125
 Tyr Gly Tyr Tyr Lys Leu Thr Arg Val Met Met Met Gln Arg Ala Ala
 130 135 140
 Leu Ser Gly Gly His Val Gly Ser Gly Asp Ile Gly Trp Gly Glu Ser
 145 150 155 160
 Met Tyr Leu Gly Ile Ser Ser Ile Lys Arg Gln His Lys Val Gln
 165 170 175

<210> 256
 <211> 270
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0254

<400> 256
 Ile Pro Met Lys Thr Leu Gly Val Lys Asp Gln Asn Leu Phe Ile Asp
 1 5 10 15
 Gln Ala Thr Leu Ser Val Glu Arg Asn Val Arg Ile Glu Asn Asn Leu
 20 25 30
 Glu Thr Arg Asp Leu Lys Val Leu Asp Thr Thr Thr Ser Pro Cys Glu
 35 40 45
 Phe Ile Val Lys Gly Asn Val Ser Ala Glu Gly Ser Gln Leu Asn Ala
 50 55 60
 Thr Thr Leu Ser Asp Gly Phe Asn Ile Tyr Ser Lys Thr Asp Val Ser
 65 70 75 80

Leu Gly Gln Val Gln Cys Glu Ser Thr Ile Tyr Ser Gly Gly Gly Tyr
 210 215 220
 Ala Thr Ile Gly Thr Leu Gly Thr Ser Ile Tyr Arg Ala Ser Val Asp
 225 230 235 240
 Val Ala Pro Asn Pro Asn Asp Pro Asn Ala Ser Asp Arg Tyr Arg Ala
 245 250 255
 Gly Ile Phe Tyr Leu Ser Asn Gly Gly Ser Ser Ala Gly Ile Gly Asn
 260 265 270
 Tyr Ser Phe Ser Leu Leu Tyr Tyr Pro Asp Asp Arg Gly
 275 280 285

<210> 258
 <211> 295
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0256

<400> 258
 Phe Cys Gly Gly Arg Leu Met Ser Asn Pro Thr Pro Lys Thr Lys Ile
 1 5 10 15
 Ser Ile Pro Thr Phe Val Arg Phe Asn Ile Gln Ser Ile Asn Leu Thr
 20 25 30
 Glu Asp Gln Lys Lys Thr Thr Phe Thr Val Gly Gly Lys Val Thr Thr
 35 40 45
 Glu Asn Thr Val Val Arg Gly Asp Leu Thr Cys Thr Asp Gly Gly Leu
 50 55 60
 Thr Cys Gln Ser Asp Leu Thr Ile Gln Lys Asp Ile Asn Ile Arg Pro
 65 70 75 80
 Thr Ser Thr Asn Ser Met Val Phe Asp Gly Arg Leu Asn Leu Ser Asn
 85 90 95
 Ser Pro Leu Ser Tyr Lys Asn Ser Gln Gly Gln Asp Ile Thr Asp Tyr
 100 105 110
 Glu Lys Met Ser Ser Gly Lys Pro Gln Glu Tyr Val Pro Phe Gly Tyr
 115 120 125
 Tyr Lys Arg Thr Gln Ile Met Met Ala Gln Arg Ala Ala His Ser Ser
 130 135 140
 Gly Tyr Val Gly Gly Gly Ser Val Pro Ser Gly Ser Tyr Val Pro Trp
 145 150 155 160
 Asn Lys Phe Asp Gln Thr Ser Thr Gln Lys Thr Ser Gly Thr Glu Ile
 165 170 175
 Tyr Ile Asp Pro Asn Asp Ser Thr Lys Leu Val Phe Glu Val Asn Asn
 180 185 190
 Lys Val Pro Lys Leu Phe Arg Ile Ser Val Ile Met Ala Lys His Gly
 195 200 205
 Ser Trp Leu Asp Asn Gly Thr Gly Ala Asp Ile Leu Leu Ala Ala Asn
 210 215 220
 Glu Tyr Glu Gln Gly Gly Arg Ile Asn Val Thr Asp Leu Ala Met
 225 230 235 240
 Thr Thr Ser Arg Gly Ser Ser Tyr Tyr Glu Thr Arg Pro Leu Gln Val
 245 250 255
 Val Cys Val Thr Tyr Tyr Ala Gln Asn Asn Gly Tyr Phe Thr Phe Gln
 260 265 270
 Asn Arg Ala Gly Gly Gly Leu Arg Val Ser Phe Phe Ser Trp Asn Ile
 275 280 285
 Val Ala Leu Pro Tyr Val Glu
 290 295

<210> 259
 <211> 290
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0257

<400> 259
 Gly Val Val Met Lys Arg Arg Asn Leu Gln Lys Ile Leu Pro Asn Ala
 1 5 10 15
 Ser Thr Pro Ser Thr Asn Val Ala Glu Asn Thr Gly Ile Lys Asp Gln
 20 25 30
 Asn Leu Phe Leu Asp Gln Ala Thr Leu Asn Val Asp Gly Asn Val Asp
 35 40 45
 Ile Glu Asn Phe Leu Glu Thr Arg Asp Leu Lys Val Ala Asp Thr Ile
 50 55 60
 Thr Ser Pro Cys Glu Phe Thr Val Gly Gly Gly Leu Ser Ala Glu Ser
 65 70 75 80
 Ser Gln Phe Lys Ala Thr Thr Leu Ser Lys Gly Leu Glu Ile Thr Ser
 85 90 95
 Glu Asp Gln Asp Gly Arg Val Pro Lys Phe Thr Asn Val Ser Asp Pro
 100 105 110
 Gln Ser Pro Arg Asp Ala Leu Thr Tyr Asn Tyr Tyr Arg Asn Thr Gly
 115 120 125
 Cys Gln Ala Leu Asn Leu Tyr Thr Tyr Tyr Ser Ser Ser Gln Pro Thr
 130 135 140
 Thr Val Gly Lys Pro Ile Glu Thr Val Cys Gln Asn Pro Asn Pro Glu
 145 150 155 160
 Thr Tyr Arg Ile Ser Ala Ser Ala Lys Ile Tyr Asp Ala Val Thr Arg
 165 170 175
 Phe Pro Tyr Ile Gln Phe Lys Ala Pro Gly Ile Tyr Gln Val Thr Ile
 180 185 190
 Gln Ile Arg Arg Glu Ser Gly Gln His Ser Gly Leu Asp Asn Pro Asn
 195 200 205
 Leu Tyr Leu Asn Leu Met Ile Gly Asn Asn Lys Thr Leu Leu Cys Ala
 210 215 220
 Ser Asp Thr Arg Gly Tyr Ser Gly Gly His Arg Thr Ser Ile Ala Val
 225 230 235 240
 Thr Gly Thr Phe Thr Leu Thr Glu Ile Val Ala Thr Pro Pro His Asp
 245 250 255
 Tyr Pro Trp Leu Phe Leu Glu Thr Thr Ile Gly Leu Asp Ile Lys Ser
 260 265 270
 Met Ser Thr Cys Val Ile Trp Phe Pro Phe Gln Ala Asn Phe Ala Glu
 275 280 285
 Val Asp
 290

<210> 260
 <211> 134
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0258

<400> 260
 Cys Phe Ser Phe Cys Arg Leu Gly Ser Lys Phe Glu Lys Ile Thr Leu
 1 5 10 15
 Gly Gly Asn Thr Ala Ile Gln Leu Leu Ala Ala Gly Thr Tyr Ile Leu
 20 25 30

Thr Phe Thr Ile Gly Lys Arg Trp Gly Trp Asn Asn Gly Trp Gly Gly
 35 40 45
 Ser Ile Arg Leu Phe Glu Gly Lys Tyr Thr Gly Asp Gly Thr Met Leu
 50 55 60
 Cys Gly Ser Thr Val Tyr Ser Gly Gly Gly Tyr Ser Thr Ile Gly Tyr
 65 70 75 80
 Leu Ser Thr Ala Val Tyr Arg Asp His Ser Asp Ile Asp Pro Asp Pro
 85 90 95
 Asn Asn Pro Ser Asp Lys Tyr Met Asn Asn Phe Leu Phe Val Arg Asn
 100 105 110
 Gly Asp His Ser Ala Val Ile Gly Asn Tyr Ser Phe Thr Leu Leu Tyr
 115 120 125
 Phe Ala Gly Asp Lys Val
 130

<210> 261
 <211> 197
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0259

 <400> 261
 Ile Tyr Phe Val Phe Lys Arg Lys Thr Tyr Asn Tyr Phe Ile Glu Met
 1 5 10 15
 Thr Thr Thr Asn Asn Gln Asp Asn Asn Glu Cys Tyr Phe Lys Leu Asp
 20 25 30
 Ser Thr Val Asp Gly Asp Leu Leu Ala Ser Asn Ile Gln Thr Phe Asp
 35 40 45
 Lys Gln Ala Lys Gly Ile Ser Ser Thr Glu Thr Phe Ser Val Gln Gly
 50 55 60
 Asn Ala Thr Phe Lys Glu Lys Val Ser Ala Thr Gly Leu Thr Ser Ala
 65 70 75 80
 Ser Thr Tyr Lys Leu Asn Ala Thr Gly Pro Ala Pro Ser Ser Ile Thr
 85 90 95
 Ile Asp Met Lys Asn Asn Arg Leu Ser Asn Pro Ala Leu Pro Lys Asn
 100 105 110
 Pro Cys Asp Pro Val Pro Ala Asn Tyr Val Arg Ser Pro Gln Tyr Phe
 115 120 125
 Phe Cys Ala Lys Pro Ile Glu Gly Thr Phe Met Phe Asp Gly Ser Ser
 130 135 140
 Arg Tyr Leu Pro Ile Thr Gly Asp Gly Ser Asn Tyr Thr Leu Tyr Gln
 145 150 155 160
 Ser Ser Lys Ala Gly Asp Val Phe Arg Phe Val Asp Trp Asp Gln Asn
 165 170 175
 Ser Lys Lys Leu His Leu Gly Gly Thr Gln Pro Tyr Asn Phe Leu Leu
 180 185 190
 Gln Glu Pro Ile Ser
 195

<210> 262
 <211> 181
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0260

<400> 262
Ala Tyr Leu Asp Phe Ser Lys Arg Ser Cys Val Glu Glu Asp His Val
1 5 10 15
Ser Lys Lys Ile Asn Arg Asn Asp Leu Cys Pro Cys Gly Ser Asn Lys
20 25 30
Lys Tyr Lys Gln Cys Cys Leu Lys Lys Glu Glu Gln Thr Ala Arg Tyr
35 40 45
Thr Thr Glu Gly Lys Phe Lys Phe Ser Ala Glu Val Leu Ser Ala Ser
50 55 60
Glu Gln Gly Glu Ala Gly Asp Asn Cys Thr Lys Leu Phe Gln Arg Leu
65 70 75 80
Ser Gln Ser Leu Thr Ser Glu Gln Lys Ala Ala Val Gly Lys Phe His
85 90 95
Gln Ile Thr Lys Asn Lys Glu Val Met Ser Lys Lys Ala Leu Lys Lys
100 105 110
Ala Gln Ala Lys Glu Glu Lys Leu Val Thr Glu Lys Leu Gln Gln His
115 120 125
Asn Phe Glu Ile Leu Asn Thr Gly Glu Asn Leu Ala Pro Pro Met Glu
130 135 140
Ser Thr Ala Thr Leu Asn Gln Asp Thr Asn Phe Val Cys Glu Asp Phe
145 150 155 160
Ile Pro Thr Gln Glu Asp Phe Arg Ile Ser Glu Asn Ser Gln Lys Pro
165 170 175
Pro Val Glu Glu Asp
180

<210> 263
<211> 254
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0261

<400> 263
Tyr Ser Phe Asn His Pro Phe Ile Val Phe Met Ser Thr Leu Leu Leu
1 5 10 15
Asn Pro Pro Trp Met Lys Ala Gly Lys Arg Ile Glu Ser Leu Val Arg
20 25 30
Lys Ala Leu Tyr Thr His Thr Met Leu Ala Asn His Arg Lys Ile Val
35 40 45
Val Ala Leu Ser Gly Gly Lys Asp Ser Leu Thr Leu Leu Leu Met Leu
50 55 60
Lys Ala Ile Ser Gly Arg Gly Phe Pro Asp Leu Asp Leu His Ala Val
65 70 75 80
Asn Ile Gly Gly Lys Tyr Ser Cys Gly Ala Glu Val Asn Lys Pro Tyr
85 90 95
Leu Thr Arg Ile Cys Asp Gln Leu Cys Ile Pro Phe Arg Thr Ile Pro
100 105 110
Ser Pro Tyr Ala Pro Glu Thr Pro Glu Cys Tyr Pro Cys Ser Gln Ala
115 120 125
Arg Arg Arg Leu Leu Phe Gln Ala Ala Lys Glu Ile Gly Ala Ser Ala
130 135 140
Ile Ala Phe Gly His His Arg Asp Asp Leu Val Gln Thr Ala Leu Leu
145 150 155 160
Asn Leu Leu His Lys Ala Glu Phe Ala Gly Met Leu Pro Val Leu Asp
165 170 175
Met Val His Phe Gly Val Thr Ile Leu Arg Pro Leu Ile Phe Thr Pro
180 185 190
Glu Phe Trp Ile Arg Lys Phe Ala Lys Glu Asn Gly Phe Ala Arg Val
195 200 205

Thr Cys Arg Cys Pro Val Val Ser Leu Arg Ser Lys Ala Glu Gln Ser
 210 215 220
 Leu Lys Leu Leu Glu Glu Val Phe Pro Leu Ala Arg His Asn Ile Ala
 225 230 235 240
 Leu Ala Ile Gln Glu His Gly Ser Ser Lys Ser Gln Lys Ile
 245 250

<210> 264
 <211> 293
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0262

<400> 264
 Leu Ile Phe Asn Ile Asn Lys Glu Val Lys Val Tyr Leu Val Leu Met
 1 5 10 15
 Asn Lys Arg Leu Lys Ile Ile Leu Thr Asn Asp Asp Gly Ile Thr Ala
 20 25 30
 Lys Gly Met Ser Cys Leu Val Ser Ala Leu Leu Glu Ala Asn Ile Gly
 35 40 45
 Asp Ile Tyr Ile Ala Ala Pro Gln Ala Glu Gln Ser Gly Lys Ser Met
 50 55 60
 Ala Ile Ser Leu Asn Gln Val Val Cys Ala Ser Pro Tyr Ala Tyr Pro
 65 70 75 80
 Gln Pro Val Lys Glu Ala Trp Ala Val Gly Gly Ser Pro Thr Asp Cys
 85 90 95
 Val Arg Leu Gly Leu Arg Thr Leu Phe Glu Ser Val Ser Pro Asp Leu
 100 105 110
 Val Ile Ser Gly Ile Asn Cys Gly Asn Asn Ile Cys Lys Asn Ala Trp
 115 120 125
 Tyr Ser Gly Thr Ile Gly Ala Ala Lys Gln Ala Leu Val Asp Gly Ile
 130 135 140
 Pro Ser Met Ala Leu Ser Gln Asp Asn His Ile Ser Phe Phe Gln Gln
 145 150 155 160
 Asp Lys Ala Pro Glu Ile Leu Lys Ala Leu Val Ile Tyr Leu Leu Ser
 165 170 175
 Gln Pro Phe Pro Cys Leu Thr Gly Leu Asn Ile Asn Phe Pro Thr Ser
 180 185 190
 Pro Gly Gly Ser Ser Trp Glu Gly Met Arg Leu Val Pro Pro Gly Asp
 195 200 205
 Glu Phe Phe Tyr Glu Glu Pro Gln Tyr Leu Gly Ser Val Asn Lys Asn
 210 215 220
 Gln Tyr Tyr Val Gly Lys Ile Ser Gly Val Arg Ile Gly Glu His Pro
 225 230 235 240
 Ser Glu Glu Leu Ala Cys Met Leu Glu Asn His Ile Ser Val Ser Pro
 245 250 255
 Ile Phe Ser Gln Asn Ser Pro Ile Gly Leu Met Thr Leu Glu Glu Phe
 260 265 270
 Gln Lys Thr Gln Glu Asn Phe Asn Ala Ser Leu Leu Ser Ser Glu Leu
 275 280 285
 Thr Thr Lys Ile Phe
 290

<210> 265
 <211> 321
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0263

<400> 265

Ser Thr Ala Leu Ser Arg Arg Lys Leu Arg Val Arg Pro Pro Ser Leu
1 5 10 15
Ala Lys Tyr Ala Phe Arg Gly Phe Arg Met Ser His Gly Pro Arg Pro
20 25 30
Thr Lys Phe Ser Phe Pro Leu Tyr Phe Ser Lys Thr Leu Ser Trp Phe
35 40 45
Ile Leu Gly Gly Phe Leu Ala Ala Cys Gly Val Gln Met Val Leu Val
50 55 60
Pro Asn Glu Leu Ile Asp Gly Gly Ile Val Gly Leu Ser Ile Ile Ala
65 70 75 80
Ser His Phe Leu Gly His Lys Ala Leu Pro Phe Cys Leu Val Leu Phe
85 90 95
Asn Leu Pro Phe Val Phe Leu Ala Phe Lys Gln Ile Gly Lys Tyr Phe
100 105 110
Val Ile Gln Met Leu Thr Ala Val Ile Ile Phe Ser Cys Ser Leu Trp
115 120 125
Leu Ile Asp Gln Leu Pro Ser Trp Leu Gly Met Ser Pro Phe Val Phe
130 135 140
Lys Gly Ser Glu Met Glu Thr Val Val Leu Gly Gly Ala Ile Ile Gly
145 150 155 160
Val Gly Cys Gly Leu Ile Ile Arg His Gly Gly Ser Thr Asp Gly Thr
165 170 175
Glu Ile Leu Gly Ile Ile Ile Asn Lys Lys Lys Gly Tyr Thr Val Gly
180 185 190
Gln Ile Ile Leu Phe Val Asn Phe Phe Ile Phe Ala Leu Ser Gly Ile
195 200 205
Val Tyr Lys Asn Trp His Thr Ala Phe Val Ser Phe Leu Thr Tyr Gly
210 215 220
Ile Ala Thr Lys Val Met Asp Met Val Ile Leu Gly Leu Glu Asp Thr
225 230 235 240
Lys Ser Val Thr Ile Thr Ser Ser Pro Arg Lys Leu Gly His Ile
245 250 255
Leu Met Glu Thr Leu Gly Ile Gly Leu Thr Tyr Ile His Ala Glu Gly
260 265 270
Gly Tyr Ser Gly Glu Pro Arg Asn Leu Leu Tyr Val Val Glu Arg
275 280 285
Leu Gln Leu Ser Gln Leu Lys Glu Ile Val His Arg Glu Asp Pro Ser
290 295 300
Ala Phe Ile Ala Ile Glu Asn Leu His Glu Val Ile Asn Gly Arg Arg
305 310 315 320
Thr

<210> 266

<211> 192

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0264

<400> 266

Met Lys Arg Tyr Val Val Gly Ile Ser Gly Ala Ser Gly Val Ile Leu
1 5 10 15
Ala Val Lys Leu Ile Lys Glu Leu Val Asn Ala Lys His Gln Val Glu
20 25 30

Val Ile Ile Ser Pro Ser Gly Arg Lys Thr Leu Tyr Tyr Glu Leu Gly
 35 40 45
 Cys Gln Ser Phe Asp Ala Leu Phe Ser Glu Glu Asn Leu Glu Tyr Ile
 50 55 60
 His Thr His Ser Ile Gln Ala Ile Glu Ser Ser Leu Ala Ser Gly Ser
 65 70 75 80
 Cys Pro Val Glu Ala Thr Ile Ile Ile Pro Cys Ser Met Thr Thr Val
 85 90 95
 Ala Ala Ile Ser Ile Gly Leu Ala Asp Asn Leu Leu Arg Arg Val Ala
 100 105 110
 Asp Val Ala Leu Lys Glu Arg Arg Pro Leu Ile Leu Val Pro Arg Glu
 115 120 125
 Thr Pro Leu His Thr Ile His Leu Glu Asn Leu Leu Lys Leu Ser Lys
 130 135 140
 Ser Gly Ala Thr Ile Phe Pro Pro Met Pro Met Trp Tyr Phe Lys Pro
 145 150 155 160
 Gln Ser Val Glu Asp Leu Glu Asn Ala Leu Val Gly Lys Ile Leu Ala
 165 170 175
 Tyr Leu Asn Ile Pro Ser Asp Leu Thr Lys Gln Trp Ser Asn Pro Glu
 180 185 190

<210> 267
 <211> 301
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0265

<400> 267
 Lys Ile Ile Ile Val Arg Leu Asn Tyr Phe Leu Asn Leu Val Asn Phe
 1 5 10 15
 Lys Tyr Ser Ile Phe Ser Ile Leu Phe Leu Ser Ala Ser Thr Val Phe
 20 25 30
 Ala Leu Ser Ile Asn Glu Ile Ser Gln Asn Leu Ser Phe Lys Glu Gly
 35 40 45
 Phe Lys Ile Ser Val Phe Gly Ala Ile Ala Phe Val Phe Ala Arg Thr
 50 55 60
 Thr Gly Ile Val Val Asn Gln Cys Ile Asp Arg Phe Ile Asp Lys Lys
 65 70 75 80
 Asn Thr Arg Thr Ser Lys Arg Val Leu Pro Ala Asn Leu Val Ser Leu
 85 90 95
 Asn Phe Ala Trp Val Leu Ser Leu Phe Cys Ser Phe Leu Phe Leu Phe
 100 105 110
 Leu Cys Lys Ile Leu Arg Ile Phe Ser Leu Gly Ile Ala Ser Leu Thr
 115 120 125
 Leu Met Ile Val Tyr Pro Tyr Met Lys Arg Val Thr Phe Phe Cys His
 130 135 140
 Trp Gly Leu Gly Leu Val Tyr Thr Val Ala Ile Leu Met Asn Phe Cys
 145 150 155 160
 Ala Phe Ala Glu Ser Gly Leu Ser Met Arg Leu Cys Phe Leu Ala Leu
 165 170 175
 Leu Trp Gly Gly Ser Val Gly Met Val Ile Ala Ala Asn Asp Ile Ile
 180 185 190
 Tyr Ala Ile Glu Asp Thr Glu Phe Asp Arg Glu Glu Gly Leu Arg Ser
 195 200 205
 Val Pro Ala His Tyr Gly Glu Lys Lys Ala Val Glu Ile Ala Lys Val
 210 215 220
 Asn Leu Trp Val Ser Tyr Leu Ala Tyr Ile Phe Ser Gly Phe Val Gly
 225 230 235 240

Ser Leu Asp Lys Glu Phe Tyr Phe Thr Ala Ile Ile Pro Leu Val Val
245 250 255
Ile Leu Lys Val Val Arg Met Tyr Ser Asn Tyr Ser Lys Lys Asp Gln
260 265 270
Glu Gly Glu Ser Lys Phe Phe Leu Ala Asn Ile Ala Ile Ala Leu Ser
275 280 285
Phe Leu Val Ser Met Thr Leu Phe Trp Ser Leu Ser Arg
290 295 300

<210> 268
<211> 232
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0266

<400> 268
Ile Met Ala Leu Asp Glu Ile Asn Asn Gln Asn Asn Pro Ser Gln Gln
1 5 10 15
Ile Ala Ser Ser Thr Ser Gln Thr Ser Lys Ile Asn Gln Asp Arg Lys
20 25 30
Thr Phe Ala Cys Thr Val Thr Leu Leu Val Val Ala Thr Leu Met Ile
35 40 45
Leu Ser Gly Ile Val Leu Leu Phe Thr Ile Gly Ser Leu Gly Leu Ser
50 55 60
Val Pro Leu Ser Gly Ile Leu Gly Thr Phe Ala Val Thr Val Gly Ala
65 70 75 80
Val Leu Phe Ile Thr Gly Leu Thr Ile Leu Val Arg Lys Ser Leu Gly
85 90 95
Ile Glu Gln Lys Asn Glu Asp Leu Asn Phe Leu Lys Ile Lys Thr Pro
100 105 110
Thr Pro Pro Ala Arg Pro Leu Met Ser Lys Phe Ser Val Thr Cys Ser
115 120 125
Thr Thr Ser Ile Val Leu Gly Met Ala Leu Leu Ile Gly Ala Val Val
130 135 140
Ser Val Phe Phe Leu Thr Gly Tyr Leu Gln Leu Gly Leu Cys Ala Gly
145 150 155 160
Leu Val Gly Leu Gly Thr Ala Leu Phe Val Ala Gly Leu Ala Arg Met
165 170 175
Ser Pro Arg Ser Leu Ala Asp Gln Glu Gly Ser Gly Ser Ala Asp Ser
180 185 190
Gln Ser Asn Ile Val Gly Ile Gly Glu Pro Lys Ala Ala Gln Glu Gln
195 200 205
Lys Trp Tyr Lys Met Ala Val Val Arg Gly Glu Asp Gly Ile Pro Thr
210 215 220
Ala Ile Arg Leu Thr Pro Glu Lys
225 230

<210> 269
<211> 263
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0267

<400> 269
Val Ser Ile Met Ser Leu Asn Lys Thr Asn Ala Leu Leu Asn Gln Pro
1 5 10 15

Glu Pro Ala Val Cys Leu Asn Ala Trp Asp Pro Lys Tyr Ile Asn Gln
 20 25 30
 Asp Arg Lys Thr Phe Ala Cys Thr Val Thr Leu Leu Val Ile Ala Thr
 35 40 45
 Leu Met Ile Leu Thr Thr Gly Val Ile Val Leu Leu Ala Met Gly Ser
 50 55 60
 Pro Gly Leu Ser Val Leu Val Ser Thr Ile Ile Gly Thr Ser Val Thr
 65 70 75 80
 Thr Leu Gly Thr Ala Leu Phe Ile Ile Gly Leu Val Lys Leu Ile Lys
 85 90 95
 Lys Ser Leu Ala Trp Ile Gln Tyr Gln Lys Tyr Phe Gln Glu Val Val
 100 105 110
 Lys Gln Lys Tyr Glu Pro Phe Ser Ile Pro Lys Asn Asp Asn Val His
 115 120 125
 Lys Leu Thr Ser Cys Leu Pro Ser Pro Leu Asp Ile Glu Ser Pro Ser
 130 135 140
 Pro Glu Ala Ser Thr Pro Val Ser Lys Leu Arg Ile Ala Cys Ser Gly
 145 150 155 160
 Val Ala Ile Val Leu Gly Val Thr Leu Leu Ile Gly Ala Val Val Ser
 165 170 175
 Val Phe Phe Cys Thr Gly Tyr Leu Gln Leu Ala Leu Cys Val Gly Phe
 180 185 190
 Ala Cys Leu Gly Thr Ala Leu Phe Val Gly Gly Leu Ala Gly Leu Arg
 195 200 205
 Thr His Ser Leu Ile Ala Gln Gly Ile Met Tyr Leu Tyr Leu Thr Tyr
 210 215 220
 Tyr Leu Ser Ser Ala Leu Glu Glu Arg Asn Glu Thr Val Lys Asp Gln
 225 230 235 240
 Arg Asn Glu Ile Asn Thr Tyr Leu Thr Glu Glu Cys Arg Gln Gln Lys
 245 250 255
 Arg Glu Lys Ala Leu Leu Glu
 260

<210> 270
 <211> 135
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0268

<400> 270
 Lys Gln Trp Ala Leu Ser Leu Met Ser Gln Cys Gln Ser Ser Ser Thr
 1 5 10 15
 Ser Thr Trp Glu Trp Met Lys Ser Phe Val Pro Asn Trp Lys Asn Pro
 20 25 30
 Thr Pro Pro Leu Ser Pro Ile Pro Ser Glu Asp Glu Phe Ile Leu Ala
 35 40 45
 Tyr Glu Pro Phe Val Leu Pro Lys Thr Asp Pro Glu Asn Ala Gln Ala
 50 55 60
 Asn Pro Pro Gly Thr Ser Thr Pro Asn Val Glu Asn Gly Ile Asp Asp
 65 70 75 80
 Leu Asn Pro Leu Leu Gly Gln Pro Asn Glu Gln Asn Asn Ala Asn Asn
 85 90 95
 Pro Gly Thr Ser Gly Ser Asn Pro Thr Ser Leu Pro Ala Pro Glu Arg
 100 105 110
 Leu Pro Glu Thr Glu Glu Asn Ser Gln Glu Glu Glu Gln Gly Ser Gln
 115 120 125
 Asn Asn Glu Asp Leu Ile Gly
 130 135

<210> 271
 <211> 331
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0269

<400> 271
 Val Ala Phe Arg Cys Val Met Thr Ile Asp Met His Cys Asp Leu Leu
 1 5 10 15
 Ser His Pro His Phe Cys Arg Lys Asp Pro Ala Val Arg Cys Ser Pro
 20 25 30
 Glu Gln Leu Leu Ser Gly Gly Val Arg Gln Gln Val Cys Ala Ile Phe
 35 40 45
 Val Pro His Ser Arg Gly Glu Pro Asn Cys Asp Lys Gln Asn Ser Leu
 50 55 60
 Phe Phe Ser Leu Pro Asn Gln Tyr Pro Asp Ile Gly Leu Leu Ser Tyr
 65 70 75 80
 Glu Glu Glu Glu Asn Gly Ser Ser Ser Gln Lys Lys Ser Leu Ser Leu
 85 90 95
 Ile Arg Ser Ile Glu Asn Ala Ser Ala Leu Gly Asp Asp Thr Ala Pro
 100 105 110
 Leu Gly Thr Leu Leu Ala Lys Leu Ile His Leu Thr Lys Gln Gly Pro
 115 120 125
 Leu Ala Tyr Leu Gly Ile Val Trp Lys Gly Asp Asn Arg Phe Gly Gly
 130 135 140
 Gly Thr Glu Ala Pro Lys Arg Leu Ser Asn Asp Gly Lys Val Leu Leu
 145 150 155 160
 Asp Ile Met Tyr Glu Leu Gly Val Pro Ile Asp Leu Ser His Cys Ser
 165 170 175
 Asp Lys Leu Ala Glu Asp Ile Leu Asp Tyr Thr Ala Asp Lys Leu Pro
 180 185 190
 Asn Leu Ala Val Ile Ala Ser His Ser Asn Phe Arg Ser Val Leu Asp
 195 200 205
 His Arg Arg Asn Leu Val Asp Ala His Ala Lys Glu Ile Val Arg Arg
 210 215 220
 Lys Gly Val Ile Gly Leu Asn Leu Val Arg Ser Tyr Val Gly Asp Ser
 225 230 235 240
 Leu Gly Asp Leu Glu Lys His Val Leu His Ala Glu Asn Leu Gly Ile
 245 250 255
 Leu Ser Ser Ile Val Leu Gly Ser Asp Phe Phe Tyr Ala Asn Glu Asp
 260 265 270
 Glu Asn Phe Phe Phe Asn Glu Cys Ser Ser Ala Glu Ala His Pro Val
 275 280 285
 Leu Asn Gln Leu Ile His Arg Ile Phe Ser Lys Gly Lys Ala Glu Ser
 290 295 300
 Ile Leu Ser Ser Arg Ala Glu Lys Phe Leu Lys Gln Val Ile Val Glu
 305 310 315 320
 Gln Val Asn Pro Lys Ile Thr Asp Val Lys Leu
 325 330

<210> 272
 <211> 292
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0270

<400> 272
 Ser Ile Phe Gly Val Ile Val Pro Asp Lys Lys Ala Gln Ile Thr Phe
 1 5 10 15
 Ser Leu Pro Glu Val Met Ser Ala Ile His Gln Gly Lys Ile Val Ala
 20 25 30
 Leu Pro Thr Asp Thr Val Tyr Gly Phe Val Leu Ser Leu Tyr Ala Ser
 35 40 45
 Glu Ala Glu Glu Arg Leu Tyr Ala Leu Lys Asp Arg Glu Pro Ser Lys
 50 55 60
 Ala Phe Ala Leu Tyr Val Asn Ser Ile Glu Asp Ile Glu Asn Ile Ser
 65 70 75 80
 Gly Tyr Pro Leu Ser Pro Thr Ala Lys Lys Leu Ala Gln Leu Phe Pro
 85 90 95
 Gly Ala Ile Thr Leu Val Val Lys His Arg Asn Pro Arg Phe Pro Lys
 100 105 110
 Glu Thr Leu Ala Phe Arg Ile Val Asp His Ser Val Val Arg Glu Ile
 115 120 125
 Val Asp His Cys Gly Thr Leu Ile Gly Thr Ser Ala Asn Leu Ser Glu
 130 135 140
 Phe Pro Ser Ala Leu Thr Ala Gln Glu Ile Phe Ala Asp Phe Ala Asp
 145 150 155 160
 His Asp Leu Cys Ile Phe Asp Gly Pro Cys Ser His Gly Leu Glu Ser
 165 170 175
 Thr Val Val Ala Ser Asp Pro Leu Tyr Ile Tyr Arg Glu Gly Leu Ile
 180 185 190
 Ser Arg Ser Val Ile Glu Asn Ile Ala Gly Thr Glu Ala Lys Ile Phe
 195 200 205
 His Arg Thr Ser His Ala Phe Ser Lys His Ile Lys Ile Tyr Thr Val
 210 215 220
 Lys Asn Gln Glu Gln Leu Val Ser Phe Leu Ser Gly Ser Leu Asp Phe
 225 230 235 240
 Lys Gly Val Val Cys Glu His Pro Lys Pro Lys Asn Phe Tyr Thr Arg
 245 250 255
 Leu Arg Glu Ala Leu Lys Lys Lys Thr Pro Ser Ile Val Phe Ile Tyr
 260 265 270
 Asp Ile Asn Thr Ser Asp Tyr Pro Glu Leu Phe Pro Phe Leu Ser Pro
 275 280 285
 Tyr Tyr Ile Glu
 290

<210> 273
 <211> 245
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0271

<400> 273
 Lys Leu Met Thr Asp Tyr Ser Phe Phe Arg Arg Lys Ile Gly Asn Ile
 1 5 10 15
 Glu Ala Ile Glu Cys Pro Gly Asn Pro Gln Asp Pro Ile Ile Leu
 20 25 30
 Cys His Gly Tyr Gly Ser Leu Ala Asp Asn Leu Thr Phe Phe Pro Ser
 35 40 45
 Ile Cys Ser Phe Ser Lys Leu Arg Pro Thr Trp Ile Phe Pro Asn Gly
 50 55 60
 Ile Leu Pro Leu Glu Asn Asp Phe Arg Gly Ser Arg Ala Cys Phe Pro
 65 70 75 80
 Leu Asn Val Leu Leu Leu Gln Glu Leu Ser Arg Leu Tyr Ala Asn Gly
 85 90 95

Val Gly Asn Leu Gln Glu Lys Tyr Asp Glu Leu Phe Asp Val Asp Leu
 100 105 110
 Glu Thr Pro Lys Glu Ala Leu Glu Glu Leu Ile Leu Asn Leu Asn Arg
 115 120 125
 Pro Tyr Asn Glu Ile Ile Ile Gly Gly Phe Ser Gln Gly Ala Ile Leu
 130 135 140
 Ala Thr His Leu Val Leu Thr Ser Gln Asn Pro Tyr Ala Gly Ala Leu
 145 150 155 160
 Ile Phe Ala Gly Ala Arg Leu Phe Asn Gln Gly Trp Glu Glu Gly Leu
 165 170 175
 Lys Gln Cys Ala Gln Val Pro Phe Leu Gln Ser His Gly Tyr Glu Asp
 180 185 190
 Glu Ile Leu Pro Tyr His Leu Gly Ala His Leu Asn Asp Leu Leu Leu
 195 200 205
 Thr Lys Leu Asn Gly Gln Phe Val Ser Phe His Gly Gly His Glu Ile
 210 215 220
 Pro Ser Val Val Phe Gln Lys Met Gln Val Thr Val Pro Asn Trp Ile
 225 230 235 240
 Asp Pro Ala Arg Gly
 245

<210> 274
 <211> 311
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0272

<400> 274
 Phe Asn Arg Gln Ser Asp Ala Thr Tyr Ala Thr Trp Val Met His Leu
 1 5 10 15
 Glu Glu Glu Asn Gln Gly Trp Glu Ala Leu Leu Arg Lys Val Tyr His
 20 25 30
 Gln Glu Val Pro Pro Ala Ile Leu Leu His Gly Phe Thr Leu Pro Val
 35 40 45
 Leu Gln Asp Lys Ala Glu Gln Leu Ala Ser Glu Ile Leu Leu Ser Ser
 50 55 60
 Ser Pro Gly Ser Glu His Lys Val Ser Gln Lys Ile His Pro Asp Ile
 65 70 75 80
 Tyr Gln Phe Phe Pro Glu Gly Lys Gly Arg Leu His Ser Ile Asp Leu
 85 90 95
 Pro Arg Gly Ile Lys Lys Gln Ile Tyr Ile Ser Pro Phe Glu Ala Asn
 100 105 110
 Tyr Lys Ile Tyr Ile Ile His Glu Ala Asp Arg Met Thr Leu Ala Ala
 115 120 125
 Ile Ser Ala Phe Leu Lys Val Phe Glu Glu Pro Pro Lys His Ala Val
 130 135 140
 Ile Ile Leu Thr Thr Ala Lys Val Gln Arg Leu Pro Lys Thr Ile Ile
 145 150 155 160
 Ser Arg Ser Leu Ser Ile Phe Ile Glu Arg Gly Glu Lys Ile Leu Cys
 165 170 175
 Ser Lys Glu Thr Phe Ser Tyr Leu Phe Arg Tyr Ala Gln Cys Glu Ile
 180 185 190
 Pro Val Thr Glu Val Ser Gln Ile Ile Lys Glu Ser Ser Glu Thr Asp
 195 200 205
 Lys Gln Val Leu Arg Asp Lys Val Gln Arg Phe Met Glu Val Leu Leu
 210 215 220
 Glu Leu Tyr Arg Asp Arg Tyr Thr Leu Asn Leu Gly Leu Lys Ala Ser
 225 230 235 240

Ala Leu Asn Tyr Pro Glu His Val Lys Glu Ile Leu Gln Leu Pro Leu
245 250 255
Leu Pro Leu Asp Lys Val Leu Leu Ile Val Glu Ser Ala Cys Arg Ser
260 265 270
Leu Asn Asn Ser Ser Ser Ala Ala Ser Val Leu Glu Trp Val Ala Ile
275 280 285
Gln Leu Val Ser Leu Gln Tyr Lys Glu Lys Glu Leu Val Ser Val Ser
290 295 300
Pro Gly Gln Asp Leu Ser Asn
305 310

<210> 275
<211> 209
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0273

<400> 275
Gly Ser Ile Val Phe Ile Val Ile Glu Gly Gly Glu Gly Ser Gly Lys
1 5 10 15
Ser Ser Leu Ala Lys Ala Leu Gly Asp Gln Leu Val Ala Gln Asp Arg
20 25 30
Lys Val Leu Leu Thr Arg Glu Pro Gly Gly Cys Leu Ile Gly Glu Arg
35 40 45
Leu Arg Asp Leu Ile Leu Glu Pro Pro His Leu Glu Leu Ser Arg Cys
50 55 60
Cys Glu Leu Phe Leu Phe Leu Gly Ser Arg Ala Gln His Ile Gln Glu
65 70 75 80
Val Ile Ile Pro Ala Leu Arg Asp Gly Tyr Ile Val Ile Cys Glu Arg
85 90 95
Phe His Asp Ser Thr Ile Val Tyr Gln Gly Ile Ala Glu Gly Leu Gly
100 105 110
Ala Asp Phe Val Ala Asp Leu Cys Ser Lys Val Val Gly Pro Thr Pro
115 120 125
Phe Leu Pro Asn Phe Val Leu Leu Leu Asp Ile Pro Ala Asp Ile Gly
130 135 140
Leu Gln Arg Lys His Arg Gln Lys Val Phe Asp Lys Phe Glu Lys Lys
145 150 155 160
Pro Leu Ser Tyr His Asn Arg Ile Arg Glu Gly Phe Leu Ser Leu Ala
165 170 175
Ser Ala Asp Pro Ser Arg Tyr Leu Val Leu Asp Ala Arg Glu Ser Leu
180 185 190
Ala Ser Leu Ile Asp Lys Val Met Leu His Thr Gln Leu Gly Leu Cys
195 200 205
Thr

<210> 276
<211> 839
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0274

<400> 276
Glu Ser Thr Ile Pro Met Phe Asn Lys Asp Glu Ile Ile Val Pro Lys
1 5 10 15

Asn Leu Glu Glu Glu Met Lys Glu Ser Tyr Leu Arg Tyr Ser Met Ser
 20 25 30
 Val Ile Ile Ser Arg Ala Leu Pro Asp Ile Arg Asp Gly Leu Lys Pro
 35 40 45
 Ser Gln Arg Arg Val Leu Tyr Ala Met Lys Gln Leu Ser Leu Ser Pro
 50 55 60
 Gly Ala Lys His Arg Lys Cys Ala Lys Ile Cys Gly Asp Thr Ser Gly
 65 70 75 80
 Asp Tyr His Pro His Gly Glu Ser Val Ile Tyr Pro Thr Leu Val Arg
 85 90 95
 Met Ala Gln Asn Trp Ala Met Arg Tyr Pro Leu Val Asp Gly Gln Gly
 100 105 110
 Asn Phe Gly Ser Ile Asp Gly Asp Pro Pro Ala Ala Met Arg Tyr Thr
 115 120 125
 Glu Ala Arg Leu Thr His Ser Ala Met Tyr Leu Met Glu Asp Leu Asp
 130 135 140
 Lys Asp Thr Val Asp Ile Val Pro Asn Tyr Asp Glu Thr Lys His Glu
 145 150 155 160
 Pro Val Val Phe Pro Ser Lys Phe Pro Asn Leu Leu Cys Asn Gly Ser
 165 170 175
 Ser Gly Ile Ala Val Gly Met Ala Thr Asn Ile Pro Pro His Asn Leu
 180 185 190
 Gly Glu Leu Ile Glu Ala Thr Leu Leu Leu Leu Ala Asn Pro Gln Ala
 195 200 205
 Ser Val Asp Glu Ile Leu Gln Val Met Pro Gly Pro Asp Phe Pro Thr
 210 215 220
 Gly Gly Ile Ile Cys Gly Ser Glu Gly Ile Arg Ser Ala Tyr Thr Thr
 225 230 235 240
 Gly Arg Gly Lys Ile Lys Val Arg Ala Arg Leu His Val Glu Glu Asn
 245 250 255
 Glu Asp Lys His Arg Glu Ser Ile Ile Ile Thr Glu Met Pro Tyr Asn
 260 265 270
 Val Asn Lys Ser Arg Leu Ile Glu Gln Ile Ala Asn Leu Val Asn Glu
 275 280 285
 Lys Thr Leu Ala Gly Ile Ser Asp Val Arg Asp Glu Ser Asp Lys Asp
 290 295 300
 Gly Ile Arg Val Val Leu Glu Ile Lys Lys Gly Glu Ser Ser Glu Ile
 305 310 315 320
 Ile Ile Asn Arg Leu Tyr Lys Phe Thr Asp Val Gln Val Thr Phe Gly
 325 330 335
 Ala Asn Met Leu Ala Leu Asp Lys Asn Leu Pro Arg Thr Met Ser Ile
 340 345 350
 His Arg Met Ile Ser Ala Trp Ile Arg His Arg Lys Glu Val Ile Arg
 355 360 365
 Arg Arg Thr Arg Tyr Glu Leu Asn Lys Ala Glu Thr Arg Ala His Val
 370 375 380
 Leu Glu Gly Tyr Leu Lys Ala Leu Ser Cys Leu Asp Ala Leu Val Lys
 385 390 395 400
 Thr Ile Arg Glu Ser Gly Asn Lys Glu His Ala Lys Glu Arg Ile Ile
 405 410 415
 Glu Ser Phe Gly Phe Thr Glu Pro Gln Ala Leu Ala Ile Leu Glu Leu
 420 425 430
 Arg Leu Tyr Gln Leu Thr Gly Leu Glu Ala Glu Lys Ile Gln Lys Glu
 435 440 445
 Tyr Glu Glu Leu Leu Asn Lys Ile Ala Tyr Tyr Lys Gln Val Leu Ser
 450 455 460
 Asp Glu Gly Leu Val Lys Asp Ile Ile Arg Asn Glu Leu Gln Asp Leu
 465 470 475 480
 Leu Lys His His Lys Val Ala Arg Arg Thr Thr Ile Glu Phe Asp Ala
 485 490 495

Asp Asp Ile Arg Asp Ile Glu Asp Ile Ile Thr Asn Glu Ser Val Ile
 500 505 510
 Ile Thr Ile Ser Gly Asp Asp Tyr Val Lys Arg Met Pro Val Lys Val
 515 520 525
 Phe Lys Glu Gln Arg Arg Gly Gly His Gly Val Thr Gly Phe Asp Met
 530 535 540
 Lys Lys Gly Ala Gly Phe Leu Lys Ala Val Tyr Ser Ala Phe Thr Lys
 545 550 555 560
 Asp Tyr Leu Leu Ile Phe Thr Asn Phe Gly Gln Cys Tyr Trp Leu Lys
 565 570 575
 Val Trp Gln Leu Pro Glu Gly Glu Arg Arg Ala Lys Gly Lys Pro Ile
 580 585 590
 Ile Asn Phe Leu Glu Gly Ile Arg Pro Gly Glu Glu Leu Ala Ala Ile
 595 600 605
 Leu Asn Ile Lys Asn Phe Asp Asn Ala Gly Phe Leu Phe Leu Ala Thr
 610 615 620
 Lys Arg Gly Val Val Lys Lys Val Ser Leu Asp Ala Phe Ser Asn Pro
 625 630 635 640
 Arg Lys Lys Gly Ile Arg Ala Leu Glu Ile Asp Glu Gly Asp Glu Leu
 645 650 655
 Ile Ala Ala Cys His Ile Val Ser Asp Glu Glu Lys Val Met Leu Phe
 660 665 670
 Thr His Leu Gly Met Ala Val Arg Phe Pro His Glu Lys Val Arg Pro
 675 680 685
 Met Gly Arg Thr Ala Arg Gly Val Arg Gly Val Ser Leu Lys Asn Glu
 690 695 700
 Glu Asp Lys Val Val Ser Cys Gln Ile Val Thr Glu Asn Gln Ser Val
 705 710 715 720
 Leu Ile Val Cys Asp Gln Gly Phe Gly Lys Arg Ser Leu Val Glu Asp
 725 730 735
 Phe Arg Glu Thr Asn Arg Gly Gly Val Gly Val Arg Ser Ile Leu Ile
 740 745 750
 Asn Glu Arg Asn Gly Asn Val Leu Gly Ala Ile Pro Val Thr Asp His
 755 760 765
 Asp Ser Ile Leu Leu Met Ser Ser Gln Gly Gln Ala Ile Arg Ile Asn
 770 775 780
 Met Gln Asp Val Arg Val Met Gly Arg Ser Thr Gln Gly Val Arg Leu
 785 790 795 800
 Val His Leu Lys Glu Gly Asp Ala Leu Val Ser Met Glu Lys Leu Ser
 805 810 815
 Ser Asn Glu Asn Asp Asp Glu Val Leu Ser Gly Ser Glu Glu Glu Cys
 820 825 830
 Ser Asp Thr Val Ser Leu Arg
 835

<210> 277
 <211> 806
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0275

<400> 277
 Phe Met Asp Pro Lys Glu Lys Asn Tyr Asp Ala Ser Ala Ile Thr Val
 1 5 10 15
 Leu Glu Gly Leu Gln Ala Val Arg Glu Arg Pro Gly Met Tyr Ile Gly
 20 25 30
 Asp Thr Gly Ile Thr Gly Leu His His Leu Val Tyr Glu Val Val Asp
 35 40 45

584

Tyr Arg His Met Thr Ala Leu Ile Glu Asn Glu Cys Val Tyr Ile Ala
 530 535 540
 Gln Pro Pro Leu Tyr Lys Val Ser Lys Lys Lys Asp Phe Arg Tyr Ile
 545 550 555 560
 Leu Ser Glu Lys Glu Met Asp Ser Tyr Leu Leu Met Leu Gly Thr Asn
 565 570 575
 Glu Ser Ser Ile Leu Phe Lys Ser Thr Glu Arg Glu Leu Arg Gly Glu
 580 585 590
 Ala Leu Glu Ser Phe Ile Asn Val Ile Leu Asp Val Glu Ser Phe Ile
 595 600 605
 Asn Thr Leu Glu Lys Lys Ala Ile Pro Phe Ser Glu Phe Leu Glu Met
 610 615 620
 Tyr Lys Glu Gly Ile Gly Tyr Pro Leu Tyr Tyr Leu Ala Pro Ala Thr
 625 630 635 640
 Gly Met Gln Gly Gly Arg Tyr Leu Tyr Ser Asp Glu Glu Lys Glu Glu
 645 650 655
 Ala Leu Ala Gln Glu Glu Thr His Lys Phe Lys Ile Ile Glu Leu Tyr
 660 665 670
 Lys Val Ala Val Phe Val Asp Ile Gln Asn Gln Leu Lys Glu Tyr Gly
 675 680 685
 Leu Asp Ile Ser Ser Tyr Leu Ile Pro Gln Lys Asn Glu Ile Val Ile
 690 695 700
 Gly Asn Glu Asp Ser Pro Ser Cys Asn Tyr Ser Cys Tyr Thr Leu Glu
 705 710 715 720
 Glu Val Ile Asn Tyr Leu Lys Asn Leu Gly Arg Lys Gly Ile Glu Ile
 725 730 735
 Gln Arg Tyr Lys Gly Leu Gly Glu Met Asn Ala Asp Gln Leu Trp Asp
 740 745 750
 Thr Thr Met Asn Pro Glu Gln Arg Thr Leu Ile His Val Ser Leu Lys
 755 760 765
 Asp Ala Val Glu Ala Asp His Ile Phe Thr Met Leu Met Gly Glu Glu
 770 775 780
 Val Pro Pro Arg Arg Glu Phe Ile Glu Ser His Ala Leu Ser Ile Arg
 785 790 795 800
 Ile Asn Asn Leu Asp Ile
 805

<210> 278
 <211> 116
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0276

<400> 278
 Asp Met Phe Leu Lys Arg Lys Lys Arg Gly Gly Ser Gln Val Gln Asn
 1 5 10 15
 Lys Arg Thr Ala Ser Pro Ile Lys His Ala Lys His Tyr Leu His Asn
 20 25 30
 Tyr Leu Gln Glu Leu Gln Lys Ile Met Ala Ala Arg Pro His Asp Ala
 35 40 45
 Ile Asp Ala Trp Asn Gln Val Phe Arg Asp Lys Tyr Lys Gly Met Ser
 50 55 60
 Gln Ala Ile Gly Phe Arg Asp His Ile Leu Leu Val Lys Val Tyr Asn
 65 70 75 80
 Ser Ser Leu Tyr Ala Leu Leu Lys Gln Thr Pro Gln Asn Asp Leu Ile
 85 90 95
 Met Ser Leu Tyr Gln Val Ala Ser His Val Gln Ile Arg Glu Ile Gln
 100 105 110

Phe Leu Leu Gly
115

<210> 279
<211> 200
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0277

<400> 279
Asn Ile Ser Ile Phe Tyr Pro Lys Tyr Phe Ile Glu Gly Lys Glu Val
1 5 10 15
Leu Ile Lys Asn Leu Pro Pro Leu Ile Phe Tyr Gly Val Ile Leu Met
20 25 30
Ile Ile Asn Val Arg Ala Pro Ala Phe Gly Ile Thr Ser Val Gln Gln
35 40 45
Phe Ser Thr Asn Phe Gln Ala Ala Ile Pro Ile Leu Asn Ile Val Ile
50 55 60
Gly Cys Ser Arg Ile Ser Ser Thr Tyr Ala Glu Asp Ile Glu Glu Val
65 70 75 80
Ala Gln Glu Lys Leu Glu Lys Ser Thr His Ser Lys Ser Ser Thr Ser
85 90 95
Val Asn Leu Trp Ala His Arg Val Arg Gly Val Val Glu Ile Leu Gly
100 105 110
Gly Gly Ile Val Ile Leu Ala Leu Glu Ile Thr Ala Leu Val Leu Gln
115 120 125
Val Ile Ile Lys Leu Ile Lys Cys Leu Ile Asp Val Leu Cys Val Cys
130 135 140
Leu Phe Gly Leu Gly Val Cys Val Val Ala Ile Ile Gly Ala Ile Ala
145 150 155 160
Phe Cys Val Val Val Val Lys Tyr Leu Gly Phe Cys Ser Gln Gly
165 170 175
Glu Glu Leu Glu Pro Ile Glu Val Lys Thr Leu Ile Ser Pro Asp Lys
180 185 190
Pro Tyr Pro Thr Val Val Tyr Val
195 200

<210> 280
<211> 275
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0278

<400> 280
Arg Asp Ser Met Lys Lys Lys Leu Ser Leu Leu Val Gly Leu Ile Phe
1 5 10 15
Val Leu Ser Ser Cys His Lys Glu Asp Ala Gln Asn Lys Ile Arg Ile
20 25 30
Val Ala Ser Pro Thr Pro His Ala Glu Leu Leu Glu Ser Leu Gln Glu
35 40 45
Glu Ala Lys Asp Leu Gly Ile Lys Leu Lys Ile Leu Pro Val Asp Asp
50 55 60
Tyr Arg Ile Pro Asn Arg Leu Leu Asp Lys Gln Val Asp Ala Asn
65 70 75 80
Tyr Phe Gln His Gln Ala Phe Leu Asp Asp Glu Cys Glu Arg Tyr Asp
85 90 95

Cys Lys Gly Glu Leu Val Val Ile Ala Lys Val His Leu Glu Pro Gln
 100 105 110
 Ala Ile Tyr Ser Lys Lys His Ser Ser Leu Glu Arg Leu Lys Ser Gln
 115 120 125
 Lys Lys Leu Thr Ile Ala Ile Pro Val Asp Arg Thr Asn Ala Gln Arg
 130 135 140
 Ala Leu His Leu Leu Glu Glu Cys Gly Leu Ile Val Cys Lys Gly Pro
 145 150 155 160
 Ala Asn Leu Asn Met Thr Ala Lys Asp Val Cys Gly Lys Glu Asn Arg
 165 170 175
 Ser Ile Asn Ile Leu Glu Val Ser Ala Pro Leu Leu Val Gly Ser Leu
 180 185 190
 Pro Asp Val Asp Ala Ala Val Ile Pro Gly Asn Phe Ala Ile Ala Ala
 195 200 205
 Asn Leu Ser Pro Lys Lys Asp Ser Leu Cys Leu Glu Asp Leu Ser Val
 210 215 220
 Ser Lys Tyr Thr Asn Leu Val Val Ile Arg Ser Glu Asp Val Gly Ser
 225 230 235 240
 Pro Lys Met Ile Lys Leu Gln Lys Leu Phe Gln Ser Pro Ser Val Gln
 245 250 255
 His Phe Phe Asp Thr Lys Tyr His Gly Asn Ile Leu Thr Met Thr Gln
 260 265 270
 Asp Asn Gly
 275

<210> 281
 <211> 224
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0279

<400> 281
 Lys Lys Ile Met Gln Ser Asp Leu Ile Gln Ile Leu Leu Lys Glu Thr
 1 5 10 15
 Val Asn Thr Leu Tyr Met Val Ser Thr Ala Phe Phe Phe Ser Cys Ala
 20 25 30
 Ile Gly Gly Met Leu Gly Leu Gly Leu Phe Cys Thr Ser Pro Lys Ser
 35 40 45
 Leu Asn Pro Lys Lys Ser Leu Tyr Ala Thr Ile Ser Met Ile Leu Ser
 50 55 60
 Phe Leu Thr Ala Ile Pro Phe Ala Ile Leu Ile Val Ile Leu Phe Pro
 65 70 75 80
 Ile Thr Arg Trp Ile Val Gly Thr Ser Leu Gly Pro Thr Ala Ser Ile
 85 90 95
 Val Pro Leu Thr Ile Gly Ala Ile Pro Phe Val Val Thr Ile Val Val
 100 105 110
 Asp Ala Phe Arg Asn Ser Ala Leu Asn Tyr Leu Glu Ser Ala Val Ala
 115 120 125
 Leu Gly Ile Pro Lys Arg Asn Ile Leu Phe Gly Ile Leu Leu Pro Glu
 130 135 140
 Ser Tyr Pro Gln Leu Ile Phe Ser Leu Lys Ser Leu Val Val His Leu
 145 150 155 160
 Ile Ser Cys Ser Thr Leu Ala Gly Phe Val Gly Gly Gly Gly Leu Gly
 165 170 175
 Gln Leu Leu Leu Gln Tyr Gly Tyr Tyr Arg Phe Glu Trp Ser Val Thr
 180 185 190
 Thr Ser Val Leu Val Ile Thr Leu Val Leu Ile Glu Ser Val Arg Ile
 195 200 205

Leu Gly Asp Phe Trp Gly Arg Arg Val Leu Lys Tyr Arg Gly Ile Leu
 210 215 220

<210> 282
 <211> 348
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0280

<400> 282
 Ile Lys Gly Glu Ala Trp Leu Val Ser Glu Gln His Ser Pro Ile Ile
 1 5 10 15
 Ser Val Gln Asp Val Ser Lys Lys Leu Gly Asp His Ile Leu Leu Ser
 20 25 30
 Lys Val Ser Phe Ser Val Tyr Pro Gly Glu Val Phe Gly Ile Val Gly
 35 40 45
 His Ser Gly Ser Gly Lys Thr Leu Leu Arg Cys Leu Asp Phe Leu
 50 55 60
 Asp Met Pro Thr Ser Gly Ser Ile Ser Val Ala Gly Phe Asp Asn Ser
 65 70 75 80
 Leu Pro Thr Gln Lys Phe Ser Arg Arg Asn Phe Ser Lys Lys Val Ala
 85 90 95
 Tyr Ile Ser Gln Asn Tyr Gly Leu Phe Ser Ser Lys Thr Val Phe Glu
 100 105 110
 Asn Ile Ala Tyr Pro Leu Arg Ile His His Ser Glu Met Ser Lys Ser
 115 120 125
 Glu Val Glu Glu Gln Val Tyr Asp Thr Leu Asn Phe Leu Asn Leu Tyr
 130 135 140
 His Arg His Asp Ala Tyr Pro Gly Asn Leu Ser Gly Gly Gln Lys Gln
 145 150 155 160
 Lys Val Ala Ile Ala Arg Ala Ile Val Cys Gln Pro Glu Val Val Leu
 165 170 175
 Cys Asp Glu Ile Thr Ser Ala Leu Asp Pro Lys Ser Thr Glu Asn Ile
 180 185 190
 Ile Glu Arg Leu Leu Gln Leu Asn Gln Glu Arg Gly Ile Thr Leu Val
 195 200 205
 Leu Val Ser His Glu Ile Asp Val Val Lys Lys Ile Cys Ser His Val
 210 215 220
 Leu Val Met His Gln Gly Ala Val Glu Glu Leu Gly Thr Thr Glu Glu
 225 230 235 240
 Leu Phe Leu Asn Ser Glu Asn Ser Ile Thr Asn Glu Leu Phe His Glu
 245 250 255
 Asp Ile Asn Ile Ala Ala Leu Ser Ser Cys Tyr Phe Ala Glu Asp Arg
 260 265 270
 Glu Glu Val Leu Arg Leu Asn Phe Ser Lys Glu Leu Ala Ile Gln Gly
 275 280 285
 Ile Ile Ser Lys Val Ile Gln Thr Gly Leu Val Ser Ile Asn Ile Leu
 290 295 300
 Ser Gly Asn Ile Asn Leu Phe Arg Lys Ser Pro Met Gly Phe Leu Ile
 305 310 315 320
 Ile Val Leu Glu Gly Glu Val Glu Gln Arg Lys Lys Ala Lys Glu Leu
 325 330 335
 Leu Ile Glu Leu Gly Val Val Ile Lys Glu Phe Tyr
 340 345

<210> 283
 <211> 357
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0281

<400> 283

Ile Ser Leu Arg Arg His Thr Leu Met Leu Asn Ile His Asp Ile Leu
1 5 10 15
Gly Asn Asp Asp Glu Asn Leu Leu Ser Tyr Gln Cys Lys His Ile Thr
20 25 30
Lys Asp Lys Leu Thr Leu Pro Ser His Asp Phe Val Asp Lys Val Phe
35 40 45
Gly Leu Ser Asp Arg Asn Asn Arg Val Leu Arg Ser Leu Gln Thr Met
50 55 60
Phe Ser His Gly Arg Leu Ala Asn Ser Gly Tyr Leu Ser Ile Leu Pro
65 70 75 80
Val Asp Gln Gly Ile Glu His Ser Ala Gly Ala Ser Phe Ala Ile Asn
85 90 95
Pro Ile Tyr Phe Asp Pro Glu Asn Ile Val Lys Leu Ala Ile Glu Ser
100 105 110
Gly Cys Ser Ala Val Ala Ser Thr Tyr Gly Thr Leu Ser Leu Leu Ser
115 120 125
Arg Lys Tyr Ala His Lys Ile Pro Phe Met Leu Lys Leu Asn His Asn
130 135 140
Glu Leu Leu Ser Tyr Pro Thr Lys Tyr His Gln Ile Phe Phe Thr Gln
145 150 155 160
Val Glu Ala Ala Tyr Ser Met Gly Ala Val Ala Val Gly Ala Thr Val
165 170 175
Tyr Phe Gly Ser Glu Thr Ser Asn Glu Glu Ile Val Ala Val Ser Asn
180 185 190
Ala Phe Ala Lys Ala Arg Ser Leu Gly Leu Ala Thr Val Leu Trp Cys
195 200 205
Tyr Leu Arg Asn Pro Ala Phe Val Ala Asn Gly Val Asp Tyr His Thr
210 215 220
Ala Ala Asp Leu Thr Gly Gln Ala Asp His Leu Gly Ala Thr Leu Gly
225 230 235 240
Ala Asp Ile Val Lys Gln Lys Leu Pro Thr Cys Gln Gly Gly Phe Lys
245 250 255
Ala Ile Asn Phe Gly Lys Thr Asp Glu Arg Val Tyr Ser Glu Leu Ser
260 265 270
Ser Asn His Pro Ile Asp Leu Cys Arg Tyr Gln Val Leu Asn Ser Tyr
275 280 285
Cys Gly Lys Val Gly Leu Ile Asn Ser Gly Gly Pro Ser Gly Lys Asn
290 295 300
Asp Phe Thr Glu Ala Ala Arg Thr Ala Val Ile Asn Lys Arg Ala Gly
305 310 315 320
Gly Met Gly Leu Ile Leu Gly Arg Lys Ala Phe Gln Arg Pro Leu Ser
325 330 335
Glu Gly Ile Gln Leu Leu Asn Leu Val Gln Asp Ile Tyr Leu Asp Pro
340 345 350
Asn Ile Thr Ile Ala
355

<210> 284

<211> 482

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0282

<400> 284

Ile	Leu	Ile	Leu	Gln	Ser	Leu	Asn	Phe	Ser	Lys	Lys	Val	Phe	Met	His
1			5						10					15	
Ser	His	Ser	Lys	Pro	Thr	Lys	Pro	Leu	Gly	Thr	Phe	Thr	Val	Gly	Met
			20					25					30		
Leu	Ser	Leu	Ala	Val	Val	Ile	Ser	Leu	Arg	Asn	Leu	Pro	Leu	Thr	Ala
		35					40					45			
Lys	His	Gly	Leu	Ser	Thr	Leu	Phe	Phe	Tyr	Gly	Leu	Ala	Val	Ile	Cys
	50					55				60					
Phe	Met	Ile	Pro	Tyr	Ala	Leu	Ile	Ser	Ala	Glu	Leu	Ala	Ser	Phe	Lys
65					70					75				80	
Pro	Gln	Gly	Ile	Tyr	Ile	Trp	Ala	Arg	Asp	Ala	Leu	Gly	Lys	Trp	Trp
			85						90					95	
Gly	Phe	Phe	Ala	Ile	Trp	Met	Gln	Trp	Phe	His	Asn	Met	Thr	Trp	Tyr
			100					105					110		
Pro	Ala	Val	Leu	Ala	Phe	Ile	Ala	Ser	Thr	Ile	Val	Tyr	Lys	Ile	Asn
		115					120					125			
Pro	Glu	Leu	Ala	His	Asn	Lys	Val	Tyr	Ile	Ala	Thr	Val	Ile	Leu	Ala
	130					135						140			
Gly	Phe	Trp	Ile	Leu	Thr	Phe	Phe	Asn	Phe	Leu	Gly	Ile	Thr	Ser	Ser
145					150					155				160	
Ala	Leu	Phe	Ser	Ser	Ile	Cys	Val	Ile	Ile	Gly	Thr	Leu	Ile	Pro	Gly
				165					170					175	
Val	Ile	Leu	Val	Ser	Leu	Ala	Leu	Phe	Trp	Ile	Phe	Ser	Gly	Asn	Pro
			180					185					190		
Ile	Ala	Ile	Ser	Leu	Ser	Trp	Gly	Asn	Leu	Leu	Pro	Asn	Phe	Ser	Asn
		195					200					205			
Val	Ser	Ser	Leu	Val	Leu	Leu	Ala	Gly	Met	Leu	Leu	Ala	Leu	Cys	Gly
		210				215						220			
Leu	Glu	Ala	Asn	Ala	Asn	Leu	Ala	Ser	Asp	Met	Val	Asn	Pro	Arg	Lys
225					230					235				240	
Asn	Tyr	Pro	Lys	Ala	Val	Phe	Ile	Gly	Ala	Ile	Ala	Thr	Leu	Thr	Ile
			245						250					255	
Leu	Val	Leu	Gly	Ser	Leu	Ser	Ile	Ala	Ile	Val	Ile	Pro	Lys	Glu	Glu
		260						265					270		
Ile	Ser	Leu	Val	Ser	Gly	Leu	Val	Lys	Thr	Phe	Thr	Leu	Phe	Phe	Asp
		275					280					285			
Lys	Tyr	Asn	Leu	Ser	Trp	Met	Thr	Gly	Ile	Val	Val	Val	Met	Thr	Ile
		290				295					300				
Ala	Gly	Ser	Leu	Gly	Glu	Leu	Asn	Ala	Trp	Met	Phe	Ala	Gly	Thr	Lys
305					310					315				320	
Gly	Leu	Phe	Ile	Ser	Thr	Gln	Asn	Asp	Cys	Leu	Pro	Arg	Leu	Phe	Lys
			325						330					335	
Lys	Val	Asn	Ser	Lys	Asn	Val	Pro	Thr	Asn	Leu	Met	Leu	Phe	Gln	Gly
		340						345					350		
Ile	Val	Val	Thr	Ile	Phe	Thr	Leu	Leu	Phe	Leu	Cys	Leu	Asp	Ser	Ala
		355					360					365			
Asp	Leu	Val	Tyr	Trp	Ile	Leu	Thr	Ala	Leu	Ser	Val	Gln	Met	Tyr	Leu
	370					375					380				
Ala	Met	Tyr	Ile	Cys	Leu	Phe	Leu	Ala	Gly	Pro	Ile	Leu	Arg	Ile	Lys
385					390					395				400	
Glu	Pro	Arg	Ala	Gln	Arg	Leu	Tyr	Ser	Val	Pro	Gly	Lys	Phe	Leu	Gly
			405						410					415	
Ile	Cys	Thr	Met	Ser	Ile	Leu	Gly	Ile	Leu	Ser	Cys	Ala	Phe	Ala	Leu
		420						425					430		
Trp	Val	Ser	Phe	Leu	Pro	Pro	Arg	Glu	Leu	Ala	Gln	Ile	Ser	Glu	Gly
		435					440					445			
Ser	Lys	Ile	Gly	Tyr	Thr	Thr	Phe	Leu	Leu	Leu	Ala	Phe	Ser	Leu	Asn
	450					455					460				

Cys Leu Ile Pro Phe Gly Ile Tyr Phe Thr His Lys Arg Leu Ser Lys
 465 470 475 480
 Lys Ser

<210> 285
 <211> 350
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0283

<400> 285
 Gly Arg Arg Leu Ser Tyr Phe Gln Asp Leu Ile Lys Asn Ala Val Ala
 1 5 10 15
 Lys Ile Ile Ser Phe Arg Lys Ser Pro Pro Asn Pro Val Lys Leu Leu
 20 25 30
 Ile Lys Phe Ala Lys Lys Asp Leu Lys Asn Ser Ser Ile Ala Pro Leu
 35 40 45
 Tyr Glu Val Leu Leu Glu Ile Leu Glu Ala Pro Gly Glu Glu Ile Leu
 50 55 60
 Glu Val Leu Phe Ser Leu Asp Pro Met Trp Leu Lys Ser Met Leu Asp
 65 70 75 80
 Pro Lys Lys His Ser Thr Leu Gly Ile Glu Ile Ser Ser Glu Thr Ala
 85 90 95
 Glu Thr Ile Glu Ser Cys Ser Leu Gly Leu Ile Ser Ile Asn Leu Leu
 100 105 110
 Leu Ser Gly Leu Cys Leu Arg Ser Ser His Asp Arg Ser Gln Ala Val
 115 120 125
 Lys Ile Ile Gln Gln Phe Cys Pro Gln Phe Ser Ser Glu Glu Val Gln
 130 135 140
 Asn Phe Val Glu Gln Arg Asn Ile Leu Thr Pro Phe Leu His His Leu
 145 150 155 160
 Phe Glu Gly Asp Glu Val Ala Leu Leu Asn Gln Leu Ser Leu Arg Leu
 165 170 175
 Asp Leu Ile Val Pro Asn Ala Leu Tyr Pro Glu Pro Asp Pro Ser Cys
 180 185 190
 Trp Gln Ser Ile Asn Ser Glu Asp Cys Ala Lys Asp Ala Glu Asp Gln
 195 200 205
 Gln Glu Asp Phe Asn Lys Thr Lys Glu Ala Cys Lys Glu Gly Leu Lys
 210 215 220
 Lys Leu Val Leu Pro Ala Leu Ser Ile Thr Ser Ile Pro Gln Leu Leu
 225 230 235 240
 Arg Ala Arg Arg Phe Lys Gln Gly Ala Glu Ile Leu Met Ala Ile Asp
 245 250 255
 Arg Lys Lys Met Lys Gln Asn Pro Phe Ile Phe Leu Glu Ala Leu Leu
 260 265 270
 Glu Ser Glu Glu Phe Ser Ile Ser Val Gly Lys Tyr Leu Lys Leu Leu
 275 280 285
 Met Pro Ile His Leu Trp Asp Lys Leu Leu His Ala Ile Tyr Leu Gly
 290 295 300
 Tyr Phe Gln Thr Gly Leu Ile Cys Gln Gly Glu Ile Glu Thr Phe Cys
 305 310 315 320
 Arg Arg Ala Asn Leu Asn Pro Glu Ala Phe Gln Ala Ala Ile Gln Gln
 325 330 335
 Gly Arg Leu Leu Ser Phe Leu Phe Pro Lys Met Leu Leu Asp
 340 345 350

<210> 286
 <211> 168
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0284

<400> 286
 Phe Leu Asp Met Asn Ile Pro Ala Pro Gln Val Pro Val Ile Asp Glu
 1 5 10 15
 Pro Val Val Asn Asn Thr Ser Ser Tyr Gly Leu Ser Leu Lys Ser Ser
 20 25 30
 Leu Arg Pro Ile Thr Tyr Leu Ile Leu Ala Ile Leu Ala Ile Ala Thr
 35 40 45
 Leu Met Ser Val Leu Tyr Phe Cys Gly Ile Ile Ser Val Gly Thr Phe
 50 55 60
 Val Leu Gly Met Leu Ile Pro Leu Ser Val Cys Ser Val Leu Cys Val
 65 70 75 80
 Ala Tyr Leu Phe Tyr Gln Gln Ser Ser Ile Glu Lys Thr Lys Val Phe
 85 90 95
 Ser Ile Thr Ser Pro Ser Val Phe Phe Ser Asp Glu Asp Leu Asn Leu
 100 105 110
 Leu Leu Gly Arg Glu Glu Asp Ser Val Ser Ala Ile Asp Glu Leu Leu
 115 120 125
 Lys Asn Phe Pro Ala Asp Asp Phe Arg Arg Pro Lys Met Leu Pro Tyr
 130 135 140
 Ser Asn Phe Leu Asp Glu Gln Gly Arg Pro Asn Glu Ser Arg Glu Glu
 145 150 155 160
 Asp Ser His Thr Ser Lys Ile Leu
 165

<210> 287
 <211> 517
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0285

<400> 287
 Lys Glu Leu Phe Asn Leu Phe Phe Phe Thr Ala Asn Lys Glu Thr Thr
 1 5 10 15
 Ala Ser His Glu Leu Ile Tyr Arg Lys Asn Gln Ser Phe Ser Leu Ser
 20 25 30
 Pro Val Thr Ile Leu Cys Leu Leu Ala Ile Ser Val Leu Leu Leu Leu
 35 40 45
 Gly Val Val Phe Ala Leu Val Gly Cys His Val Leu Ala Ala Pro Leu
 50 55 60
 Gly Leu Leu Val Trp Gly Cys Ala Ala Ser Val Cys Ser Met Met Ala
 65 70 75 80
 Ile Val Ser Leu Met Cys Leu Tyr Lys Gly Gly Lys Pro Leu Ile Glu
 85 90 95
 Pro Ser Asn Glu Glu Lys Ile Asp Pro Thr Lys Asp Leu Glu Ile Lys
 100 105 110
 Asp Pro Glu Ser Leu Lys Pro Val Pro Val Glu Gly Gln Ser Leu Pro
 115 120 125
 Lys Glu Arg Lys Thr Val Ser Phe Lys Ala Lys Ile Pro Ser Ile Val
 130 135 140
 Glu Asp Asp Phe Lys Pro Tyr Val Ile Gln Ser Thr Phe Tyr His Gln
 145 150 155 160

Asn Lys Val Tyr Ser Lys Pro Ile Ala Glu Arg Met Gln Ser Leu Glu
 165 170 175
 Lys Glu Ile Thr Thr Leu Ile Val Asp Phe Pro Arg Ala Leu Glu Glu
 180 185 190
 Ser Ser Lys Ser Ser Gly Ser Leu Arg Gly Val Ile Ser Glu Ile
 195 200 205
 Lys Asn Leu Phe Leu Pro Arg Phe Leu Ser Arg Lys Val Lys Tyr Ser
 210 215 220
 Leu Thr Ala Cys Leu Arg Arg Leu Gly Ser Ile Val Glu Glu Tyr Ala
 225 230 235 240
 Ser Ser Asp Leu Leu Ile Leu Leu Thr Lys Pro Glu Pro Leu Asn
 245 250 255
 Met Val Thr Gln Leu Ile Ala His Leu Asn Ser Leu Lys Thr Glu
 260 265 270
 Lys Arg Lys Leu Thr Pro His Met Gln Lys Leu Val Leu Ser Ile Asn
 275 280 285
 Phe Trp Phe Tyr Gly Trp Ser Leu Glu Glu Lys Cys Ile Glu Lys Ile
 290 295 300
 Val Ala Tyr Asp Pro Asn Leu Leu Thr Asp Glu Leu Lys Ala His Leu
 305 310 315 320
 Glu Ala Gly Asn Ile Val Gln Phe Leu Leu Ser Phe Gln Ser Ser Glu
 325 330 335
 Met Gln Arg Glu Phe Arg Ala Leu Phe Pro Ser Asp Ala Gln Glu Leu
 340 345 350
 Pro Ser Ala Lys Asp Gly Ser Asn Tyr Val Pro Ala Ile Asn Ser Ser
 355 360 365
 Glu Tyr Met Tyr Asp Phe Lys Asp Leu Ser Val Leu Lys Lys Ser Leu
 370 375 380
 Ser Glu Arg Leu Ala Phe Cys Glu Lys Ile Pro Ser Pro Ser Ser Trp
 385 390 395 400
 Asn Phe Thr Ser Ser Val Ala Ser His Tyr Lys Asp Phe Ser Leu Leu
 405 410 415
 Phe Thr Phe Phe Ser Asn Gln Gln Ser Val Ile Leu Gln Asn Pro Phe
 420 425 430
 Leu Leu Ile Glu Leu Leu His Glu Asn Pro Lys Cys Gln Thr Phe Leu
 435 440 445
 Lys Gly Leu Leu Glu Lys Ala Met Pro Met Ser Asn Trp Ala Ala Leu
 450 455 460
 Phe Arg Pro Met Leu Met Gly Met Leu Cys Ser Gly Ile Ala Arg Lys
 465 470 475 480
 Lys Glu Leu Lys Ile Ile Ala Glu His Leu Gly Val Pro Phe Lys Glu
 485 490 495
 Ile Thr Gln Ala Ile Ala Ser Gly Lys Ile Leu Asp Leu Leu Leu Gln
 500 505 510
 His Leu Phe Asp Phe
 515

<210> 288

<211> 500

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0286

<400> 288

Ser Cys Arg Glu Ser Lys Gly Lys Ile Met Val Gly Glu Gln Asn Arg
 1 5 10 15
 Asn Glu Glu Lys Leu Asp Thr Ala Phe Ser Ser Gly Asn Leu Met Asp
 20 25 30

Ser Arg Thr Ser His Leu Asp Asp Glu Leu Ser Phe Lys Leu Glu Lys
 35 40 45
 Ala Phe Thr Cys Leu Ser Thr Asp Ile His Ser His Asp Leu Ser Lys
 50 55 60
 Ile Val Ile Glu Tyr Asn Pro Ile Asp Leu Ala Tyr Ala Val Ser Cys
 65 70 75 80
 Leu Pro Ser Glu Ser Arg Ala Ile Leu Tyr Lys Asn Leu Ser Cys Ile
 85 90 95
 Thr Ala Lys Val Ala Phe Ile Ile Asn Thr Asp Ser Ala Ser Arg Trp
 100 105 110
 Ala Ile Phe Arg Arg Leu Ser Asp Ser Glu Val Cys Ala Leu Ile Glu
 115 120 125
 Gln Met Pro Pro Asp Glu Ala Val Trp Val Leu Asp Asp Ile Pro Asp
 130 135 140
 Arg Arg Tyr Arg Arg Ile Leu Glu Leu Ile Asp Ser Lys Lys Ala Leu
 145 150 155 160
 Lys Ile Arg Asp Leu Gln Lys His Gly Arg Asn Thr Ala Gly Arg Leu
 165 170 175
 Met Thr Asn Glu Phe Phe Ala Phe Leu Met Glu Thr Thr Val Lys Asp
 180 185 190
 Val Ser Ala Cys Ile Arg Ser Asn Pro Gly Ile Asp Leu Thr Arg Leu
 195 200 205
 Val Phe Val Leu Asp Phe Lys Gly Glu Leu Gln Gly Val Val Thr Asp
 210 215 220
 Arg Ser Leu Ile Ile Asn Pro Pro Glu Met Ser Leu Lys Gln Ile Met
 225 230 235 240
 Asn Gln Ile Glu His Lys Val Leu Pro Asp Ala Thr Arg Glu Glu Val
 245 250 255
 Val Asp Leu Val Glu Arg Tyr Lys Ile Ala Ala Leu Pro Val Val Asp
 260 265 270
 Glu Glu Asn Phe Leu Ile Gly Ala Ile Thr Tyr Glu Asp Val Val Glu
 275 280 285
 Ala Ile Glu Asp Ile Ala Asp Glu Thr Ile Ala Arg Met Ala Gly Thr
 290 295 300
 Thr Glu Asp Val Gly Tyr Gln Thr Cys His Val Val Gln Arg Phe Leu
 305 310 315 320
 Leu Arg Ala Pro Trp Leu Leu Val Thr Leu Phe Ala Gly Leu Ile Ser
 325 330 335
 Ala Ser Val Met Ala Tyr Phe Gln Lys Ile Ser Pro Ala Leu Leu Ala
 340 345 350
 Leu Ile Ile Phe Phe Ile Pro Leu Ile Asn Gly Met Ser Gly Asn Val
 355 360 365
 Gly Val Gln Cys Ser Thr Ile Leu Val Arg Ser Met Ala Thr Gly Thr
 370 375 380
 Leu Ser Phe Gly Arg Arg Arg Glu Thr Ile Phe Lys Glu Met Ser Ile
 385 390 395 400
 Gly Leu Leu Thr Gly Val Val Leu Gly Ile Leu Cys Gly Leu Val Val
 405 410 415
 Tyr Leu Met Gly Phe Leu Gly Leu Asn Ile Phe Ser Gly Gly Gly Ile
 420 425 430
 Gln Leu Gly Val Thr Val Ala Thr Gly Val Leu Gly Ala Ser Leu Thr
 435 440 445
 Ala Thr Thr Leu Gly Val Leu Ser Pro Phe Phe Phe Ala Lys Leu Gly
 450 455 460
 Val Asp Pro Ala Leu Ala Ser Gly Pro Ile Val Thr Ala Leu Asn Asp
 465 470 475 480
 Ile Met Ser Met Ile Ile Phe Phe Leu Ile Ala Gly Gly Ile Asn Phe
 485 490 495
 Leu Phe Phe Asn
 500

<210> 289
 <211> 714
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0287

<400> 289
 Arg Arg Cys Met Ile Arg Ser Pro Leu Pro Phe Ile Ser Ser Lys Arg
 1 5 10 15
 Ala Leu Asn Met Leu Gly Leu Gln Asp Glu Phe Ser Cys Pro Glu Asp
 20 25 30
 Val Val Asp Phe Leu Phe Ser Glu Ile Glu Leu Leu Ala Gln Gln Asp
 35 40 45
 Glu Pro Ser Glu Gly Tyr Leu Ala Leu Ser Arg Ser Leu Leu Met Met
 50 55 60
 Thr His Asn His Pro Lys Val Val Lys Arg Val Ile Phe Tyr Gly Val
 65 70 75 80
 Ser Tyr Gly Leu Lys His Lys Ser Met Ser Ile Phe Ile Asp Val Leu
 85 90 95
 Thr Tyr Ile Asp Phe Leu Phe Glu Lys Leu Gly Ile Ser Ala Ser Asp
 100 105 110
 Arg Leu Ser Leu Cys Ser Ala Arg Thr Cys Ile Asn Phe Glu Leu Tyr
 115 120 125
 Ser Gln Thr Gly Glu Met Lys Phe Leu Ser Glu Val Val Asp Asn Phe
 130 135 140
 Arg Leu Ile Glu Gln Leu Leu Lys Met His Pro Gln Leu Lys Asn Arg
 145 150 155 160
 Leu Gly Trp Glu His Phe Arg Ile Gly Ala Lys Gln Glu Glu Val Ser
 165 170 175
 Leu Val Ala Ser Ala Ser Val Tyr Gln Ala Val Gly Arg Ser Phe Ile
 180 185 190
 Glu Leu Tyr His Lys His Leu Glu Leu Ser Asp Leu Ala Cys Gly Met
 195 200 205
 Lys Cys Leu Ala Leu Ala Leu Asp Leu Ser Pro Asn Asn Ala His Ile
 210 215 220
 His Ala Asp Tyr Ala Lys Gly Leu Val Val Leu Gly Thr Arg Gln Gly
 225 230 235 240
 Lys Ser Leu Leu Ile Glu Arg Gly Met Glu His Phe Ser Lys Ala Ile
 245 250 255
 Phe Leu Ser Phe Ser Arg Asp Gly Asp Thr Leu Ala Tyr Gln Asn Tyr
 260 265 270
 Arg Tyr Ser Tyr Ala Leu Ala Ser Val Lys Leu Phe Asp Leu Thr Tyr
 275 280 285
 Lys Lys Glu His Phe Asp Gln Ala Met Asn Ile Leu Tyr Gln Thr Val
 290 295 300
 Gln Ala Phe Pro Asn Leu Ser Gly Leu Trp Met Val Trp Gly Glu Leu
 305 310 315 320
 Leu Ile Arg Ser Gly Trp Leu Asn Ser Asn Met Lys Tyr Ile Glu Val
 325 330 335
 Gly Leu Glu Lys Leu Ala Ser Leu Gln Lys Lys Thr Asn Asp Pro Ile
 340 345 350
 Ala Leu Ser Gly Leu Leu Ala Thr Gly Ile Ala Ile Leu Gly Leu Tyr
 355 360 365
 Leu Glu Glu Pro Asn Leu Phe Lys Asp Ser Arg His Arg Leu Ile Ser
 370 375 380
 Ala Met Arg Thr Phe Pro Gly Asn Ser Ala Leu Val His Ala Leu Gly
 385 390 395 400
 Val Val Gln Leu Cys Ser Ala Leu Tyr Phe Asn Glu Asp Ser His Phe
 405 410 415

Ala Ser Ala Ile Ser Cys Phe Gln Ser Cys Leu Glu Trp Asp Leu Asp
 420 425 430
 Ala Thr Gly Met Trp Gln Lys Leu Phe Asp Ala Tyr Phe Ser Trp Gly
 435 440 445
 Ile Lys Lys Lys Ser Ala Arg Leu Leu Arg Lys Ala Val Asp Val Ala
 450 455 460
 Ser Arg Leu Cys Ser Leu Arg Pro Glu Ala Phe Leu Phe Trp Ser Asp
 465 470 475 480
 Arg Gly Leu Ala Leu Lys Cys Leu Ala Glu Ala Thr Ile Asp Glu Ala
 485 490 495
 Tyr Lys Glu Ile Phe Leu Ser Glu Ser Leu Leu His Tyr Gln Arg Ala
 500 505 510
 Trp Asp Leu Ser Gly Arg Leu Glu Ile Leu Glu Leu Trp Gly Gln Ser
 515 520 525
 His Tyr Leu Leu Ala Glu Leu Gln Gln Ser Leu Phe His Tyr Asp Glu
 530 535 540
 Ala Tyr Thr Leu Leu Thr Lys Val Asp Leu Thr Leu Ser Ser Ser Arg
 545 550 555 560
 Val Lys Leu Ile Leu Ala Ala Val Leu Leu Gly Lys Gly Arg Leu Leu
 565 570 575
 Gln Asp Thr Asp Pro Ala Glu Glu Ala Arg Glu Ile Leu Glu Pro Leu
 580 585 590
 Val Glu Val Tyr Leu Glu Asp Glu Asn Phe Leu Leu Leu Leu Gly Lys
 595 600 605
 Val Tyr Leu Phe Leu Phe Trp Lys Asn Lys Asn Val Cys Leu Gly Lys
 610 615 620
 Leu Ala Arg Thr Tyr Leu Glu Lys Ala Thr Ser Leu Gly Cys Pro Glu
 625 630 635 640
 Ala Tyr Tyr Thr Leu Gly Lys Phe Tyr Ala Val Ile Lys Asp Val Asn
 645 650 655
 Lys Ala Trp Gly Met Val Ile Arg Ser Ala Gln Tyr Gly Val Arg Ile
 660 665 670
 Thr Glu Ala Lys Trp Leu Asn Asp Pro Tyr Leu Ala Asn Leu Arg Glu
 675 680 685
 Ile His Ala Phe Arg Glu Val Val Glu Asn Gln Lys Gly Arg Leu Trp
 690 695 700
 Leu Gly Asn Lys Thr Glu Met Lys Arg Asn
 705 710

<210> 290
 <211> 405
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0288

<400> 290
 Ile Ser Ile Thr Ile Arg Glu Phe Leu Phe Phe Gly Phe Glu Cys Arg
 1 5 10 15
 Ala Lys Phe Tyr Asn Val Ile Met Ser Cys Phe Asn Leu Thr Ser Thr
 20 25 30
 Asn Glu Ser Leu Arg Pro Ile Ser Pro Lys Ala Ser Phe Pro Lys Gln
 35 40 45
 Gly Trp Gln Ser Tyr Phe Arg Ser Ala Leu Arg Lys His Arg Ser Asp
 50 55 60
 Thr Leu Ser Val Ser Val Cys Lys Val Asn Lys Tyr Asp Ala Asn Leu
 65 70 75 80
 Phe Val Arg Leu Thr Val Ile Ala Leu Ala Val Val Gly Val Leu Ile
 85 90 95

Leu Phe Ser Ile Met Leu Ala Ser Ile Gln Gly Thr Leu Val Ile Thr
 100 105 110
 Ser Trp Pro Leu Val Thr Ala Ala Ile Leu Ile Pro Thr Ile Leu Leu
 115 120 125
 Thr Gly Gly Met Tyr Ile Leu His Arg Leu Gly Lys Lys Val Asp Val
 130 135 140
 Ile Ser Gly Val Cys Ile Pro Pro Phe Ser Arg Arg Cys Trp Val Pro
 145 150 155 160
 Ile Ser Ser Ser His Thr Leu Glu Lys Phe Asp Glu Lys His Val Ser
 165 170 175
 Ala Cys Ser Tyr Leu Asp Ile Ser Thr Leu Ser Ala Asp Gly Ser Gly
 180 185 190
 Ile Ala Ala Val Tyr Gln Cys Pro Pro Leu Leu Phe Arg Ala Phe Pro
 195 200 205
 Cys Phe Gly Ile Pro Cys Ala Met Pro Phe Val Ala Leu Leu Arg Met
 210 215 220
 Ile Tyr Asn Leu Ile Arg Phe Leu Val Val Pro Phe Tyr Ile Ile Phe
 225 230 235 240
 Arg Met Ile Tyr Glu His Phe Phe Cys Lys His Leu Pro Glu Asp Asp
 245 250 255
 Arg Phe Ile Tyr Lys Asp Val Ala Arg Glu Met Gly Arg Ser Leu Ala
 260 265 270
 Ala Phe Leu Lys Ala Pro Phe Tyr Ala Ser Ala Cys Met Ile Gly Ala
 275 280 285
 Phe Tyr Ser Leu Leu Asp Pro Leu Ala Gly Arg Val Leu Met Gly Ser
 290 295 300
 Val Glu Arg Asp Trp Asn Asp Asn Val Ile Leu Ala Arg Ser Val Ser
 305 310 315 320
 Leu Ala Asn Glu Ala His Ser Leu Phe Arg Phe Glu Gly Gly Gly Gly
 325 330 335
 Arg Lys Gly Leu Gly Gln His Ala Phe Tyr Leu Met Leu Cys Cys Gln
 340 345 350
 Pro Gln Ser Val Phe Leu Phe Asp Lys Gly Glu Ile Val Ser Gly Ala
 355 360 365
 His Pro Ser Ile Gln Leu Pro Glu Arg Arg Gly Leu Asp Thr Ser Gly
 370 375 380
 Arg Tyr Pro His Ile Ser Val Ile Pro Asp Ser Gly Asn Asp Ser Ala
 385 390 395 400
 Lys Asn Phe Ile Val
 405

<210> 291
 <211> 400
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0289

<400> 291
 Asn Phe Asn Arg Leu Met Lys Lys Gln Arg Ser His Tyr Lys Lys Asn
 1 5 10 15
 Asn Leu Leu Leu Leu Leu Ser Ile Leu Val Gly Leu Gly Leu Gly Ser
 20 25 30
 Val Gln Ser Pro Trp Ile Val Tyr Ser Ala Glu Cys Ile Ala Asn Thr
 35 40 45
 Phe Leu Lys Phe Leu Arg Leu Leu Ser Ile Pro Leu Val Phe Cys Ala
 50 55 60
 Leu Gly Ser Thr Ile Thr Ser Ile Gln Asn Phe Asn Thr Met Val Thr
 65 70 75 80

Leu Gly Lys Arg Ile Leu Tyr Tyr Thr Leu Leu Thr Thr Val Ile Ala
 85 90 95
 Ala Ser Ile Gly Leu Leu Leu Phe Phe Leu Leu Arg Pro Gln Met Ile
 100 105 110
 Thr Gln Asp Ala Leu Ala Thr Thr Lys Cys Asn Pro Leu Gly Tyr
 115 120 125
 Leu Asp Val Leu Ser Asp Thr Leu Pro Glu Asn Ile Phe Lys Pro Phe
 130 135 140
 Leu Gln Gly Asn Val Ile Ser Ala Ala Cys Leu Ala Val Leu Leu Gly
 145 150 155 160
 Thr Ala Ser Leu Phe Leu Gln Glu Lys Glu Lys His Phe Val Asn Gln
 165 170 175
 Phe Phe Asn Ser Phe Phe Ser Ile Phe Leu Asn Leu Ala Arg Gly Gly
 180 185 190
 Leu Lys Leu Leu Pro Ile Ala Met Leu Gly Phe Ser Val Ile Leu Phe
 195 200 205
 Lys Glu Leu Lys Asp Gln Ser Asn Leu Thr Met Phe Ala Glu Tyr Leu
 210 215 220
 Leu Cys Val Ile Gly Ala Asn Leu Ala Gln Gly Phe Ile Val Leu Pro
 225 230 235 240
 Ile Leu Leu Lys Ile Asn Lys Val Ser Pro Leu Lys Val Ala Lys Ala
 245 250 255
 Met Ser Pro Ala Leu Val Thr Ala Phe Phe Ser Lys Ser Ser Ala Ala
 260 265 270
 Thr Leu Pro Leu Thr Met Glu Leu Ala Glu Asp Asp Leu Lys Ile Asn
 275 280 285
 Lys Asn Leu Ser Arg Phe Ser Phe Pro Leu Cys Ser Val Ile Asn Met
 290 295 300
 Asn Gly Cys Ala Ala Phe Ile Leu Ile Thr Val Leu Phe Val Ala Thr
 305 310 315 320
 Ser Asn Gly Met Ile Ile Ser Pro Leu Met Ser Leu Gly Trp Ile Phe
 325 330 335
 Ile Ala Thr Leu Ala Ala Ile Gly Asn Ala Gly Val Pro Met Gly Cys
 340 345 350
 Tyr Phe Leu Thr Leu Ser Leu Leu Thr Ser Met Asn Val Pro Leu Ser
 355 360 365
 Ile Leu Gly Leu Ile Leu Pro Phe Tyr Thr Val Ile Asp Met Ile Glu
 370 375 380
 Thr Ser Leu Asn Val Trp Ser Asp Cys Cys Val Val Ser Leu Ala Asn
 385 390 395 400

<210> 292
 <211> 499
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0290

<400> 292
 Arg Ser Ala Leu Thr Met Asn Lys Lys His Ala Ser Phe Ser Ser Arg
 1 5 10 15
 Leu Gly Phe Ile Phe Ser Met Ile Gly Ile Ala Val Gly Ala Gly Asn
 20 25 30
 Ile Trp Arg Phe Pro Arg Val Ala Ala Gln Asn Gly Gly Ala Phe
 35 40 45
 Leu Ile Leu Trp Leu Cys Phe Leu Phe Leu Trp Ser Ile Pro Leu Ile
 50 55 60
 Ile Ile Glu Leu Ser Ile Gly Lys Leu Thr Lys Lys Ala Pro Ile Gly
 65 70 75 80

Ala Leu Ile Lys Thr Ala Gly Lys Lys Phe Ala Trp Ala Gly Gly Phe
 85 90 95
 Ile Thr Leu Val Thr Thr Cys Ile Leu Ala Tyr Tyr Ser Thr Ile Val
 100 105 110
 Gly Trp Gly Leu Ser Tyr Phe Tyr Tyr Ala Val Ser Gly Lys Ile His
 115 120 125
 Leu Gly Asn Asp Phe Ala Lys Leu Trp Thr Ser His Tyr Gln Ser Ser
 130 135 140
 Ile Pro Leu Trp Ala His Leu Thr Ser Leu Gly Leu Ala Tyr Leu Val
 145 150 155 160
 Ile Arg Lys Gly Ile Val His Gly Ile Glu Lys Cys Asn Lys Ile Leu
 165 170 175
 Ile Pro Ala Phe Phe Leu Cys Thr Ile Ala Leu Leu Leu Arg Ala Val
 180 185 190
 Thr Leu Pro Gly Ala Val Gln Gly Ile Lys Gln Leu Phe Ser Cys Asp
 195 200 205
 Lys Ser Cys Phe Ser Asn Tyr Lys Val Trp Ile Glu Ala Leu Thr Gln
 210 215 220
 Asn Ala Trp Asp Thr Gly Ala Gly Trp Gly Leu Leu Val Tyr Ala
 225 230 235 240
 Gly Phe Ala Ser Lys Lys Thr Gly Val Val Ser Asn Gly Ala Leu Thr
 245 250 255
 Ala Ile Cys Asn Asn Leu Val Ser Leu Ile Met Gly Ile Ile Phe
 260 265 270
 Ser Thr Cys Ala Ser Leu Asp Ile Leu Gly Thr Thr Gln Leu Gln Asp
 275 280 285
 Gly Ala Gly Ala Ser Ser Ile Gly Ile Thr Phe Ile Tyr Leu Pro Glu
 290 295 300
 Leu Phe Thr Arg Leu Pro Gly Gly Ile Tyr Leu Thr Thr Leu Phe Ser
 305 310 315 320
 Ser Ile Phe Phe Leu Ala Phe Ser Met Ala Ala Leu Ser Ser Met Ile
 325 330 335
 Ser Met Leu Phe Leu Leu Ser Gln Thr Leu Ala Glu Phe Gly Ile Lys
 340 345 350
 Pro Tyr Ile Ser Glu Thr Leu Ala Thr Ile Ile Ala Phe Val Leu Gly
 355 360 365
 Ile Pro Ser Ala Leu Ser Leu Thr Phe Phe Ser Asn Gln Asp Thr Val
 370 375 380
 Trp Gly Val Ala Leu Ile Val Asn Gly Leu Ile Phe Ile Tyr Ala Ala
 385 390 395 400
 Leu Val Tyr Gly Phe Pro Lys Leu Lys Lys Glu Val Ile Asn Ala Ala
 405 410 415
 Pro Gly Asp Leu Arg Leu Asn Lys Ala Phe Asp Tyr Ile Ile Lys Tyr
 420 425 430
 Leu Leu Pro Ile Glu Gly Ile Leu Leu Leu Gly Trp Tyr Phe Tyr Glu
 435 440 445
 Gly Leu Phe Pro Glu Asn Gly Gln Trp Trp Asn Pro Ile Ser Leu Tyr
 450 455 460
 Ser Leu Gly Ser Leu Val Leu Gln Trp Ser Leu Gly Leu Ile Ile Leu
 465 470 475 480
 Trp Lys Phe Asn Lys Gln Leu Tyr Leu Arg Phe Ser Arg Tyr Asn His
 485 490 495
 Glu Ile Leu

<210> 293

<211> 179

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0291

<400> 293

Glu Lys His Met Ser Ala Pro Ile Pro Thr Pro Gln Glu Leu Ser Asp
1 5 10 15
Gln Ile Thr Cys Leu Asn Val Gln Tyr Gln Gln Val Ser Glu Leu Ala
20 25 30
Arg Glu Asn Lys Gly Asp Ile Glu Gly Leu Lys Thr Leu Thr Ala Ala
35 40 45
Leu Thr Ala Asp Ala Gly Ile Gln Pro Ser Ala Asp Glu Ile Tyr Ser
50 55 60
Leu Gln Thr Ala Ala Ala Leu Ile Leu Ser Ala Ser Glu Lys Pro Gly
65 70 75 80
Ser Gly Pro Ser Gly Ser Thr Glu Gly Ser Val Thr Val Gln Ser Pro
85 90 95
Cys Lys Phe Lys Lys Val Leu Ala Val Val Leu Thr Ile Ile Ala Leu
100 105 110
Ile Ala Ile Ala Val Leu Ile Ala Cys Ile Ile Ala Ala Cys Gly Gly
115 120 125
Phe Pro Leu Leu Leu Ser Ala Leu Asn Leu Tyr Thr Ile Gly Ala Cys
130 135 140
Val Ser Leu Pro Ile Ile Ala Ser Thr Ser Val Ala Leu Ile Cys Leu
145 150 155 160
Cys Thr Phe Val Ala Asn Ser Leu Ile Lys Pro Val Ile Thr Val Arg
165 170 175
Thr Thr Arg

<210> 294

<211> 212

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0292

<400> 294

Val Lys Asn Thr Lys Asn Ser Asp Phe Met Thr Ser Pro Ile Pro Phe
1 5 10 15
Gln Ser Ser Gly Asp Ala Ser Phe Leu Ala Glu Gln Pro Gln Gln Leu
20 25 30
Pro Ser Thr Ser Glu Ser Gln Leu Val Thr Gln Leu Leu Thr Met Met
35 40 45
Lys His Thr Gln Ala Leu Ser Glu Thr Val Leu Gln Gln Gln Arg Asp
50 55 60
Arg Leu Pro Thr Ala Ser Ile Ile Leu Gln Val Gly Gly Ala Pro Thr
65 70 75 80
Gly Gly Ala Gly Ala Pro Phe Gln Pro Gly Pro Ala Asp Asp His His
85 90 95
His Pro Ile Pro Pro Pro Val Val Pro Ala Gln Ile Glu Thr Glu Ile
100 105 110
Thr Thr Ile Arg Ser Glu Leu Gln Leu Met Arg Ser Thr Leu Gln Gln
115 120 125
Ser Thr Lys Gly Ala Arg Thr Gly Val Leu Val Val Thr Ala Ile Leu
130 135 140
Met Thr Ile Ser Leu Leu Ala Ile Ile Ile Ile Ile Leu Ala Val Leu
145 150 155 160
Gly Phe Thr Gly Val Leu Pro Gln Val Ala Leu Leu Met Gln Gly Glu
165 170 175

Thr Asn Leu Ile Trp Ala Met Val Ser Gly Ser Ile Ile Cys Phe Ile
180 185 190
Ala Leu Ile Gly Thr Leu Gly Leu Ile Leu Thr Asn Lys Asn Thr Pro
195 200 205
Leu Pro Ala Ser
210

<210> 295
<211> 928
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0293

<400> 295
Val Trp Ser Met Gln Arg Val Leu Arg Leu Leu Phe Asn Leu His His
1 5 10 15
Gly Glu Glu Lys Arg Ala Phe Leu Phe Leu Leu Gly Leu Val Trp
20 25 30
Gly Ile Gly Cys Tyr Gly Thr Leu Ser Leu Ala Glu Gly Leu Phe Ile
35 40 45
Glu Lys Leu Gly Ser Ala Glu Leu Pro Lys Ile Tyr Leu Gly Ser Ser
50 55 60
Leu Ile Leu Cys Val Leu Ser Ser Leu Ile Leu Tyr Asn Leu Phe Lys
65 70 75 80
Lys His Ile Ser Ala Thr Ala Leu Phe Leu Ile Pro Val Ser Leu Ser
85 90 95
Ile Leu Cys Asn Phe Tyr Leu Ile Leu Ser Ser Ile Phe Ala Ile Asp
100 105 110
Pro Pro Arg Ser Pro Leu Phe Phe Tyr Arg Ile Val Ile Trp Ser Leu
115 120 125
Thr Ile Leu Ser Tyr Thr Ser Phe Trp Gly Phe Val Asp Gln Phe Phe
130 135 140
Asn Leu Gln Asp Gly Lys Arg His Phe Cys Ile Phe Asn Ala Ile Ile
145 150 155 160
Phe Leu Gly Asp Ala Ile Gly Ser Gly Ile Ile Ala Ser Leu Val His
165 170 175
Thr Ile Gly Ile Gln Gly Ile Leu Ile Leu Phe Thr Ala Ala Leu Val
180 185 190
Leu Thr Phe Pro Ile Val Phe Tyr Val Ser Lys Ser Leu Lys Ser Leu
195 200 205
Ser Asp Asp His Asp Leu Phe Ile Asp Thr Gly His Pro Pro Pro Leu
210 215 220
Ser Lys Ala Leu Lys Leu Cys Phe Tyr Asp Lys Tyr Thr Phe Tyr Leu
225 230 235 240
Leu Cys Phe Tyr Phe Leu Met Gln Leu Leu Ala Ile Ala Thr Glu Phe
245 250 255
Asn Tyr Leu Lys Ile Phe Glu Ile Gln Phe Ala Ser Lys Glu Glu Phe
260 265 270
Glu Leu Val Ala His Ile Gly Lys Cys Ser Leu Trp Ile Ser Leu Gly
275 280 285
Asn Met Cys Phe Ala Leu Phe Ala Tyr Ser Arg Ile Val Lys Arg Leu
290 295 300
Gly Val Asn Asn Ile Ile Leu Phe Ala Pro Leu Cys Phe Leu Ser Leu
305 310 315 320
Phe Leu Phe Trp Thr Phe Lys Thr Thr Leu Ser Ile Ala Val Leu Ala
325 330 335
Met Val Val Arg Glu Gly Val Thr Tyr Ala Leu Asp Asp Asn Asn Leu
340 345 350

Gln Leu Leu Ile Tyr Gly Val Pro Asn Lys Ile Arg Asn Gln Ile Arg
 355 360 365
 Ile Val Val Glu Ser Phe Ile Glu Pro Ile Gly Met Leu Val Trp Ser
 370 375 380
 Leu Ile Cys Phe Leu Ser Ser Gln Gln Tyr Val Phe Cys Leu Ile Ile
 385 390 395 400
 Ser Leu Ile Ala Thr Ile Leu Val Cys Leu Val Arg Ser Tyr Tyr Ala
 405 410 415
 Lys Ala Ile Leu Lys Asn Leu Ser Ala Gln Ala Leu Gln Leu Thr Arg
 420 425 430
 Ser Met Gln Asp Trp Ile Lys Ser Met Thr Val Lys Gln Lys Arg Gln
 435 440 445
 Val Glu Leu Phe Leu Leu Ala His Leu Lys His Pro Ser Glu Arg His
 450 455 460
 Gln Thr Phe Ala Phe Gln His Leu Leu Asn Leu Ala Ser Arg Ser Val
 465 470 475 480
 Leu Pro Ser Leu Leu Ala His Met Asn Lys Leu Ser Leu Pro Asn Lys
 485 490 495
 Leu Lys Thr Ile Glu Met Val Lys Ser Ser Leu Trp Ala Lys Asp Phe
 500 505 510
 Leu Thr Leu Glu Leu Leu Lys Arg Trp Thr Ser Ile Phe Pro His Pro
 515 520 525
 Ala Ile Ala Ser Ala Ile His Leu Tyr Phe Ala Glu His Asp Leu Leu
 530 535 540
 His Ile Thr His Ile Ala Glu Asp Leu Tyr Asp Thr Val Gly Asp Arg
 545 550 555 560
 Leu Leu Ala Ala Ile Leu Thr Val Arg Arg Gln Glu Ala Tyr Gly Pro
 565 570 575
 Tyr Arg Asp Leu Ala Asp Lys Arg Leu Lys Glu Leu Leu Asn Ser Asp
 580 585 590
 Gln Pro Glu Asp Ile Val Met Gly Leu Thr Ile Leu Lys Leu Glu Lys
 595 600 605
 Asn Pro Gln Asn Phe Pro Ile Leu Leu Asp Phe Leu Asn Thr Lys Asn
 610 615 620
 Glu Asp Ile Leu Ile Val Thr Cys Lys Ala Leu His Thr Ser Val Arg
 625 630 635 640
 Ala Asn His Lys Pro Tyr Cys Pro Glu Leu Leu Lys Arg Leu Arg Gln
 645 650 655
 Cys Ser His Asn Asp Glu Ala Ser Gln Tyr Leu Leu Lys Thr Ile Ser
 660 665 670
 Ile Ala Leu Asp Ile Ser Phe Val Lys Asp Leu Leu Met Thr Thr Ser
 675 680 685
 Gln Leu Lys Asn Thr Ser Arg Lys Tyr Ala Glu Ala Met Ile Gly Glu
 690 695 700
 Leu Asp Lys Glu Val Ala Pro Ala Phe Leu Gln Val Leu Thr Asp Glu
 705 710 715 720
 Gly Thr His Asn Arg Cys Arg Ile Leu Ala Ala Lys Ala Leu Cys Lys
 725 730 735
 Ile Asp Asn Trp Leu Leu Lys Lys His Ala Tyr Lys Ile Val Lys Ser
 740 745 750
 Lys Ala Ser Lys Ala Leu Phe Tyr Ser Tyr His Gly His Tyr Ile Gln
 755 760 765
 Lys Lys Tyr Pro Thr Tyr Asn Leu Ser Leu Leu Ala Asn Thr Leu Asn
 770 775 780
 Ser Asn Tyr Tyr Ala Glu Val Asn Phe Met Leu Ser Leu Leu Gly Ile
 785 790 795 800
 Leu Gly Ser Met Glu His Ser Gly Val Leu Ile Arg Ala Leu Thr Ser
 805 810 815
 Lys Asn Gln Lys Ile Lys Ala Gln Ala Leu Glu Ser Leu Glu Lys Asn
 820 825 830

Cys Asp Ser His Leu Phe Ser Leu Leu Glu Pro Phe Val Asn Gln Pro
 835 840 845
 Gly Met Cys Tyr Ser Glu Lys Tyr Tyr Phe Lys Cys Gly Val Ile Pro
 850 855 860
 Leu Thr Leu Lys Glu Leu Leu Asn Met Met Glu Asn Ser Pro Ser Ser
 865 870 875 880
 Leu Asn Lys Leu Thr Ala Gln Gln Leu Lys Glu Glu Leu Ser Tyr Cys
 885 890 895
 Asp Pro Asp Phe Gln Ser Val Asn Thr Ile Tyr Asn Gln Glu His Glu
 900 905 910
 Asp Phe Arg Thr Glu Glu Ser Glu Thr Leu Ile Ser Phe Leu Ser Ile
 915 920 925

<210> 296
 <211> 142
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0294

<400> 296
 Ile Arg Asn Phe Phe Met Asn Leu Ile Asp Arg Ala Phe Leu Leu Lys
 1 5 10 15
 Lys Thr Ile Ile Phe Gln Ser Leu Asp Met Asp Leu Leu Leu Thr Ile
 20 25 30
 Ala Asp Lys Thr Glu Thr Ile Ile Phe Lys Pro Gly Ser Asn Val Phe
 35 40 45
 Ser Ile Gly Gln Pro Gly Phe Ser Phe Tyr Ile Ile Val Glu Gly Tyr
 50 55 60
 Ile Thr Ile Ser Lys Glu Lys Leu Glu Ser Pro Leu Asn Leu Lys Pro
 65 70 75 80
 Leu Asp Cys Phe Gly Glu Glu Ser Leu Phe Asn Asn Lys Pro Arg Glu
 85 90 95
 Tyr Asn Ala Ser Ala Asn Thr Gln Val Arg Met Leu Val Leu Ser Lys
 100 105 110
 Gly Gln Ile Leu Asn Ile Val Glu Glu Cys Pro Ser Val Ala Leu Ser
 115 120 125
 Phe Leu Glu Leu Tyr Ala Lys Gln Ile Lys Phe Arg Glu Pro
 130 135 140

<210> 297
 <211> 80
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0295

<400> 297
 Ala Met Ser Leu Glu Asp Asp Val Ile Ala Ile Ile Val Glu Gln Leu
 1 5 10 15
 Gly Val Asp Pro Lys Glu Val Asn Glu Asn Ser Ser Phe Ile Glu Asp
 20 25 30
 Leu Asn Ala Asp Ser Leu Asp Leu Thr Glu Leu Ile Met Thr Leu Glu
 35 40 45
 Glu Lys Phe Ala Phe Glu Ile Ser Glu Glu Asp Ala Glu Lys Leu Arg
 50 55 60
 Thr Val Gly Asp Val Phe Thr Tyr Ile Lys Lys Arg Gln Ala Glu Gln
 65 70 75 80

<210> 298
 <211> 257
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0296

<400> 298
 Lys Ile Pro Ile Arg Gly Met Ile Cys Met Asp Ile Thr Leu Val Gly
 1 5 10 15
 Lys Lys Val Ile Val Thr Gly Gly Ser Arg Gly Ile Gly Leu Gly Ile
 20 25 30
 Val Lys Leu Phe Leu Glu Asn Gly Ala Asp Val Glu Ile Trp Gly Leu
 35 40 45
 Asn Glu Glu Arg Gly Gln Ala Val Ile Glu Ser Leu Thr Gly Leu Gly
 50 55 60
 Gly Glu Val Ser Phe Ala Arg Val Asp Val Ser His Asn Gly Gly Val
 65 70 75 80
 Lys Asp Cys Val Gln Lys Phe Leu Asp Lys His Asn Lys Ile Asp Ile
 85 90 95
 Leu Val Asn Asn Ala Gly Ile Thr Arg Asp Asn Leu Leu Met Arg Met
 100 105 110
 Ser Glu Asp Asp Trp Gln Ser Val Ile Ser Thr Asn Leu Thr Ser Leu
 115 120 125
 Tyr Tyr Thr Cys Ser Ser Val Ile Arg His Met Ile Lys Ala Arg Ser
 130 135 140
 Gly Ser Ile Ile Asn Val Ala Ser Ile Val Ala Lys Ile Gly Ser Ala
 145 150 155 160
 Gly Gln Thr Asn Tyr Ala Ala Ala Lys Ala Gly Ile Ile Ala Phe Thr
 165 170 175
 Lys Ser Leu Ala Lys Glu Val Ala Ala Arg Asn Ile Arg Val Asn Cys
 180 185 190
 Leu Ala Pro Gly Phe Ile Glu Thr Asp Met Thr Ser Val Leu Asn Asp
 195 200 205
 Asn Leu Lys Ala Glu Trp Leu Lys Ser Ile Pro Leu Gly Arg Ala Gly
 210 215 220
 Thr Pro Glu Asp Val Ala Arg Val Ala Leu Phe Leu Ala Ser Gln Leu
 225 230 235 240
 Ser Ser Tyr Met Thr Ala Gln Thr Leu Val Val Asp Gly Gly Leu Thr
 245 250 255
 Tyr

<210> 299
 <211> 317
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0297

<400> 299
 Ser Arg Ser Asn Lys Asp Asp Asn Phe Met Lys Lys Arg Tyr Ala Phe
 1 5 10 15
 Leu Phe Pro Gly Gln Gly Ser Gln Tyr Val Gly Met Gly Gln Asp Leu
 20 25 30
 Tyr Met Glu Tyr Pro Glu Val Arg Glu Leu Phe Asp Phe Ala Asn Glu
 35 40 45
 Arg Leu Gly Phe Ser Leu Thr Ser Ile Met Phe Glu Gly Pro Glu Asp
 50 55 60

Leu Leu Met Glu Thr Val His Ser Gln Leu Ala Ile Tyr Leu His Ser
 65 70 75 80
 Met Ala Val Val Lys Val Leu Ser Gln Arg Ser Ser Ile Gln Pro Ser
 85 90 95
 Leu Val Ser Gly Leu Ser Leu Gly Glu Tyr Thr Ala Leu Val Ala Ser
 100 105 110
 Asp Arg Ile Ser Val Leu Asp Gly Leu Glu Leu Val Arg Lys Arg Gly
 115 120 125
 Gln Leu Met Asn Glu Ala Cys Asn Gln Ser Pro Gly Ala Met Ala Ala
 130 135 140
 Leu Leu Gly Leu Pro Ser Glu Val Ile Glu Glu Asn Ile Thr Ser Leu
 145 150 155 160
 Gly Gln Gly Ile Trp Ile Ala Asn Tyr Asn Ala Pro Lys Gln Leu Val
 165 170 175
 Val Ala Gly Ile Ala Glu Lys Val Asp Gln Ala Ile Glu Leu Phe Arg
 180 185 190
 Asp Leu Gly Cys Lys Lys Ala Val Arg Leu Lys Val Ser Gly Ala Phe
 195 200 205
 His Thr Pro Leu Met Gln Val Ala Gln Asp Gly Leu Ala Pro Asp Ile
 210 215 220
 Tyr Ala Leu Cys Met Lys Asp Ser Ser Leu Pro Leu Val Ser His Val
 225 230 235 240
 Val Gly Lys Ser Leu Val Asn Thr Glu Glu Met Arg Glu Cys Leu Ala
 245 250 255
 Arg Gln Met Thr Ser Pro Thr Leu Trp Tyr Gln Ser Cys Tyr His Ile
 260 265 270
 Glu Ser Glu Val Asp Glu Phe Leu Glu Leu Gly Pro Gly Lys Val Leu
 275 280 285
 Ala Gly Leu Asn Arg Ser Ile Gly Ile Ser Lys Pro Ile Thr Ser Leu
 290 295 300
 Gly Thr Phe Ala Gln Ile Glu Lys Phe Leu Ser Glu Val
 305 310 315

<210> 300
 <211> 342
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0298

<400> 300
 Tyr Thr Ser Phe Phe Leu Tyr Met Trp Phe Ser Val Asn Lys Asn Lys
 1 5 10 15
 Lys Ala Ala Ile Trp Ala Thr Gly Ser Tyr Leu Pro Glu Lys Val Leu
 20 25 30
 Ser Asn Ala Asp Leu Glu Lys Met Val Asp Thr Ser Asp Glu Trp Ile
 35 40 45
 Val Thr Arg Thr Gly Ile Lys Glu Arg Arg Ile Ala Gly Pro Gln Glu
 50 55 60
 Tyr Thr Ser Leu Met Gly Ala Ile Ala Ala Glu Lys Ala Ile Ala Asn
 65 70 75 80
 Ala Gly Leu Ser Lys Asp Gln Ile Asp Cys Ile Ile Phe Ser Thr Ala
 85 90 95
 Ala Pro Asp Tyr Ile Phe Pro Ser Ser Gly Ala Leu Ala Gln Ala His
 100 105 110
 Leu Gly Ile Glu Asp Val Pro Thr Phe Asp Cys Gln Ala Ala Cys Thr
 115 120 125
 Gly Tyr Leu Tyr Gly Leu Ser Val Ala Lys Ala Tyr Val Glu Ser Gly
 130 135 140

Thr Tyr Asn His Val Leu Leu Ile Ala Ala Asp Lys Leu Ser Ser Phe
 145 150 155 160
 Val Asp Tyr Thr Asp Arg Asn Thr Cys Val Leu Phe Gly Asp Gly Gly
 165 170 175
 Ala Ala Cys Val Ile Gly Glu Ser Arg Pro Gly Ser Leu Glu Ile Asn
 180 185 190
 Arg Leu Ser Leu Gly Ala Asp Gly Lys Leu Gly Glu Leu Leu Ser Leu
 195 200 205
 Pro Ala Gly Gly Ser Arg Cys Pro Ala Ser Lys Glu Thr Leu Gln Ser
 210 215 220
 Gly Lys His Phe Ile Ala Met Glu Gly Lys Glu Val Phe Lys His Ala
 225 230 235 240
 Val Arg Arg Met Glu Thr Ala Ala Lys His Ser Ile Ala Leu Ala Gly
 245 250 255
 Ile Gln Glu Glu Asp Ile Asp Trp Phe Val Pro His Gln Ala Asn Glu
 260 265 270
 Arg Ile Ile Asp Ala Leu Ala Lys Arg Phe Glu Ile Asp Glu Ser Arg
 275 280 285
 Val Phe Lys Ser Val His Lys Tyr Gly Asn Thr Ala Ala Ser Ser Val
 290 295 300
 Gly Ile Ala Leu Asp Glu Leu Val His Thr Glu Ser Ile Lys Leu Asp
 305 310 315 320
 Asp Tyr Leu Leu Leu Val Ala Phe Gly Gly Gly Leu Ser Trp Gly Ala
 325 330 335
 Val Val Leu Lys Gln Val
 340

<210> 301
 <211> 230
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0299

<400> 301
 Arg Lys Lys Leu Val Tyr Tyr Ser Glu Ser Leu Tyr Ser Asn Leu Asn
 1 5 10 15
 Leu Gly Pro Arg Pro Glu Cys Lys Asn Lys Ile His Ile Thr Met Thr
 20 25 30
 Arg Tyr Pro Asp Tyr Leu Ser Lys Leu Ile Phe Phe Leu Arg Lys Leu
 35 40 45
 Pro Gly Ile Gly Phe Lys Thr Ala Glu Lys Leu Ala Phe Glu Leu Ile
 50 55 60
 Ser Trp Asp Ser Glu Gln Leu Lys Ile Leu Gly Asn Ala Phe His Asn
 65 70 75 80
 Val Ala Ser Glu Arg Ser His Cys Pro Leu Cys Phe Thr Leu Lys Glu
 85 90 95
 Ser Lys Glu Ala Asp Cys His Phe Cys Arg Glu Glu Arg Asp Asn Gln
 100 105 110
 Ser Leu Cys Ile Val Ala Ser Pro Lys Asp Val Phe Phe Leu Glu Arg
 115 120 125
 Ser Lys Val Phe Lys Gly Arg Tyr His Val Leu Gly Ser Leu Leu Ser
 130 135 140
 Pro Ile Thr Gly Lys His Ile Glu Asn Glu Arg Leu Ser Ile Leu Lys
 145 150 155 160
 Ser Arg Ile Glu Thr Leu Cys Pro Lys Glu Ile Ile Leu Ala Ile Asp
 165 170 175
 Ala Thr Leu Glu Gly Asp Ala Thr Ala Leu Phe Leu Lys Gln Glu Leu
 180 185 190

Gln His Phe Ser Val Asn Ile Ser Arg Leu Ala Leu Gly Leu Pro Ile
195 200 205
Gly Leu Ser Phe Asp Tyr Val Asp Ser Gly Thr Leu Ala Arg Ala Phe
210 215 220
Ser Gly Arg His Ser Tyr
225 230

<210> 302
<211> 795
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0300

<400> 302
Gly Arg Leu Leu Gly Met Leu Ile Met Arg Asn Lys Val Ile Leu Gln
1 5 10 15
Ile Ser Ile Leu Ala Leu Ile Gln Thr Pro Leu Thr Leu Phe Ser Thr
20 25 30
Glu Lys Val Lys Glu Gly His Val Val Val Asp Ser Ile Thr Ile Ile
35 40 45
Thr Glu Gly Glu Asn Ala Ser Asn Lys His Pro Leu Pro Lys Leu Lys
50 55 60
Thr Arg Ser Gly Ala Leu Phe Ser Gln Leu Asp Phe Asp Glu Asp Leu
65 70 75 80
Arg Ile Leu Ala Lys Glu Tyr Asp Ser Val Glu Pro Lys Val Glu Phe
85 90 95
Ser Glu Gly Lys Thr Asn Ile Ala Leu His Leu Ile Ala Lys Pro Ser
100 105 110
Ile Arg Asn Ile His Ile Ser Gly Asn Gln Val Val Pro Glu His Lys
115 120 125
Ile Leu Lys Thr Leu Gln Ile Tyr Arg Asn Asp Leu Phe Glu Arg Glu
130 135 140
Lys Phe Leu Lys Gly Leu Asp Asp Leu Arg Thr Tyr Tyr Leu Lys Arg
145 150 155 160
Gly Tyr Phe Ala Ser Ser Val Asp Tyr Ser Leu Glu His Asn Gln Glu
165 170 175
Lys Gly His Ile Asp Val Leu Ile Lys Ile Asn Glu Gly Pro Cys Gly
180 185 190
Lys Ile Lys Gln Leu Thr Phe Ser Gly Ile Ser Arg Ser Glu Lys Ser
195 200 205
Asp Ile Gln Glu Phe Ile Gln Thr Lys Gln His Ser Thr Thr Thr Ser
210 215 220
Trp Phe Thr Gly Ala Gly Leu Tyr His Pro Asp Ile Val Glu Gln Asp
225 230 235 240
Ser Leu Ala Ile Thr Asn Tyr Leu His Asn Asn Gly Tyr Ala Asp Ala
245 250 255
Ile Val Asn Ser His Tyr Asp Leu Asp Asp Lys Gly Asn Ile Leu Leu
260 265 270
Tyr Met Asp Ile Asp Arg Gly Ser Arg Tyr Thr Leu Gly His Val His
275 280 285
Ile Gln Gly Phe Glu Val Leu Pro Lys Arg Leu Ile Glu Lys Gln Ser
290 295 300
Gln Val Gly Pro Asn Asp Leu Tyr Cys Pro Asp Lys Ile Trp Asp Gly
305 310 315 320
Ala His Lys Ile Lys Gln Thr Tyr Ala Lys Tyr Gly Tyr Ile Asn Thr
325 330 335
Asn Val Asp Val Leu Phe Ile Pro His Ala Thr Arg Pro Ile Tyr Asp
340 345 350

Val Thr Tyr Glu Val Ser Glu Gly Ser Pro Tyr Lys Val Gly Leu Ile
 355 360 365
 Lys Ile Thr Gly Asn Thr His Thr Lys Ser Asp Val Ile Leu His Glu
 370 375 380
 Thr Ser Leu Phe Pro Gly Asp Thr Phe Asn Arg Leu Lys Leu Glu Asp
 385 390 395 400
 Thr Glu Gln Arg Leu Arg Asn Thr Gly Tyr Phe Gln Ser Val Ser Val
 405 410 415
 Tyr Thr Val Arg Ser Gln Leu Asp Pro Met Gly Asn Ala Asp Gln Tyr
 420 425 430
 Arg Asp Ile Phe Val Glu Val Lys Glu Thr Thr Thr Gly Asn Leu Gly
 435 440 445
 Leu Phe Leu Gly Phe Ser Ser Leu Asp Asn Leu Phe Gly Gly Ile Glu
 450 455 460
 Leu Ser Glu Ser Asn Phe Asp Leu Phe Gly Ala Arg Asn Ile Phe Ser
 465 470 475 480
 Lys Gly Phe Arg Cys Leu Arg Gly Gly Gly Glu His Leu Phe Leu Lys
 485 490 495
 Ala Asn Phe Gly Asp Lys Val Thr Asp Tyr Thr Leu Lys Trp Thr Lys
 500 505 510
 Pro His Phe Leu Asn Thr Pro Trp Ile Leu Gly Ile Glu Leu Asp Lys
 515 520 525
 Ser Ile Asn Arg Ala Leu Ser Lys Asp Tyr Ala Val Gln Thr Tyr Gly
 530 535 540
 Gly Asn Val Ser Thr Thr Tyr Ile Leu Asn Glu His Leu Lys Tyr Gly
 545 550 555 560
 Leu Phe Tyr Arg Gly Ser Gln Thr Ser Leu His Glu Lys Arg Lys Phe
 565 570 575
 Leu Leu Gly Pro Asn Ile Asp Ser Asn Lys Gly Phe Val Ser Ala Ala
 580 585 590
 Gly Val Asn Leu Asn Tyr Asp Ser Val Asp Ser Pro Arg Thr Pro Thr
 595 600 605
 Thr Gly Ile Arg Gly Gly Val Thr Phe Glu Val Ser Gly Leu Gly Gly
 610 615 620
 Thr Tyr His Phe Thr Lys Leu Ser Leu Asn Ser Ser Ile Tyr Arg Lys
 625 630 635 640
 Leu Thr Arg Lys Gly Ile Leu Lys Ile Lys Gly Glu Ala Gln Phe Ile
 645 650 655
 Lys Pro Tyr Ser Asn Thr Thr Ala Glu Gly Val Pro Val Ser Glu Arg
 660 665 670
 Phe Phe Leu Gly Gly Glu Thr Thr Val Arg Gly Tyr Lys Ser Phe Ile
 675 680 685
 Ile Gly Pro Lys Tyr Ser Ala Thr Glu Pro Gln Gly Gly Leu Ser Ser
 690 695 700
 Leu Leu Ile Ser Glu Glu Phe Gln Tyr Pro Leu Ile Arg Gln Pro Asn
 705 710 715 720
 Ile Ser Ala Phe Val Phe Leu Asp Ser Gly Phe Val Gly Leu Gln Glu
 725 730 735
 Tyr Lys Ile Ser Leu Lys Asp Leu Arg Ser Ser Ala Gly Phe Gly Leu
 740 745 750
 Arg Phe Asp Val Met Asn Asn Val Pro Val Met Leu Gly Phe Gly Trp
 755 760 765
 Pro Phe Arg Pro Thr Glu Thr Leu Asn Gly Glu Lys Ile Asp Val Ser
 770 775 780
 Gln Arg Phe Phe Phe Ala Leu Gly Gly Met Phe
 785 790 795

<210> 303
 <211> 200
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0301

<400> 303

Ile Lys Asp Leu Ser Lys Glu Ile Phe Val Val Phe Arg Lys Gly Phe
1 5 10 15
Trp Tyr Pro Phe Ser Ile Pro Lys Leu Val Gln Val Ile Met Lys Lys
20 25 30
Leu Leu Phe Ser Thr Phe Leu Leu Val Leu Gly Ser Thr Ser Ala Ala
35 40 45
His Ala Asn Leu Gly Tyr Val Asn Leu Lys Arg Cys Leu Glu Glu Ser
50 55 60
Asp Leu Gly Lys Lys Glu Thr Glu Glu Leu Glu Ala Met Lys Gln Gln
65 70 75 80
Phe Val Lys Asn Ala Glu Lys Ile Glu Glu Glu Leu Thr Ser Ile Tyr
85 90 95
Asn Lys Leu Gln Asp Glu Asp Tyr Met Glu Ser Leu Ser Asp Ser Ala
100 105 110
Ser Glu Glu Leu Arg Lys Lys Phe Glu Asp Leu Ser Gly Glu Tyr Asn
115 120 125
Ala Tyr Gln Ser Gln Tyr Tyr Gln Ser Ile Asn Gln Ser Asn Val Lys
130 135 140
Arg Ile Gln Lys Leu Ile Gln Glu Val Lys Ile Ala Ala Glu Ser Val
145 150 155 160
Arg Ser Lys Glu Lys Leu Glu Ala Ile Leu Asn Glu Glu Ala Val Leu
165 170 175
Ala Ile Ala Pro Gly Thr Asp Lys Thr Thr Glu Ile Ile Ala Ile Leu
180 185 190
Asn Glu Ser Phe Lys Lys Gln Asn
195 200

<210> 304

<211> 367

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0302

<400> 304

Ser Lys Phe Lys Glu Phe Ser Met Ser Glu Ala Pro Val Tyr Thr Leu
1 5 10 15
Lys Gln Leu Ala Glu Leu Leu Gln Val Glu Val Gln Gly Asn Ile Glu
20 25 30
Thr Pro Ile Ser Gly Val Glu Asp Ile Ser Gln Ala Gln Pro His His
35 40 45
Ile Ala Phe Leu Asp Asn Glu Lys Tyr Ser Ser Phe Leu Lys Asn Thr
50 55 60
Lys Ala Gly Ala Ile Ile Leu Ser Arg Ser Gln Ala Met Gln His Ala
65 70 75 80
His Leu Lys Lys Asn Phe Leu Ile Thr Asn Glu Ser Pro Ser Leu Thr
85 90 95
Phe Gln Lys Cys Ile Glu Leu Phe Ile Glu Pro Val Thr Ser Gly Phe
100 105 110
Pro Gly Ile His Pro Thr Ala Val Ile His Pro Thr Ala Arg Ile Glu
115 120 125
Lys Asn Val Thr Ile Glu Pro Tyr Val Val Ile Ser Gln His Ala His
130 135 140
Ile Gly Ser Asp Thr Tyr Ile Gly Ala Gly Ser Val Ile Gly Ala His
145 150 155 160

Ser Val Leu Gly Ala Asn Cys Leu Ile His Pro Lys Val Val Ile Arg
 165 170 175
 Glu Arg Val Leu Met Gly Asn Arg Val Val Val Gln Pro Gly Ala Val
 180 185 190
 Leu Gly Ser Cys Gly Phe Gly Tyr Ile Thr Asn Ala Phe Gly His His
 195 200 205
 Lys Pro Leu Lys His Leu Gly Tyr Val Ile Val Gly Asp Asp Val Glu
 210 215 220
 Ile Gly Ala Asn Thr Thr Ile Asp Arg Gly Arg Phe Lys Asn Thr Val
 225 230 235 240
 Ile His Glu Gly Thr Lys Ile Asp Asn Gln Val Gln Val Ala His His
 245 250 255
 Val Glu Ile Gly Lys His Ser Ile Ile Val Ala Gln Ala Gly Ile Ala
 260 265 270
 Gly Ser Thr Lys Ile Gly Glu His Val Ile Ile Gly Gly Gln Thr Gly
 275 280 285
 Ile Thr Gly His Ile Ser Ile Ala Asp His Val Ile Met Ile Ala Gln
 290 295 300
 Thr Gly Val Thr Lys Ser Ile Thr Ser Pro Gly Ile Tyr Gly Gly Ala
 305 310 315 320
 Pro Ala Arg Pro Tyr Gln Glu Thr His Arg Leu Ile Ala Lys Ile Arg
 325 330 335
 Asn Leu Pro Lys Thr Glu Glu Arg Leu Ser Lys Leu Glu Lys Gln Val
 340 345 350
 Arg Asp Leu Ser Thr Pro Ser Leu Ala Glu Ile Pro Ser Glu Ile
 355 360 365

<210> 305
 <211> 354
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0303

<400> 305
 Arg Glu Gln Lys Gly Leu His His Met Asp Val Ser Arg Lys Ile Asn
 1 5 10 15
 Arg His Thr Gln Phe Tyr Val Asp Ser Ile Asp Gly Val Ile Lys Asn
 20 25 30
 Phe Asp His Lys Pro Ser Glu Asp Lys Ser Arg Asp His Glu Glu Leu
 35 40 45
 Glu Glu Lys Leu Leu Thr Ile Thr Lys Arg Ile Val Ala Ser Ala Gln
 50 55 60
 Glu Phe Gln Asn Arg Lys Thr Asp Ser Lys Asn Tyr Tyr Leu Lys Lys
 65 70 75 80
 Thr Gln Trp Leu Pro Phe Lys Asn Glu Glu Leu Glu Gln Thr Lys Glu
 85 90 95
 Leu Phe Ala Met Leu Thr Ser Met Asp Lys Lys Ile Ala Gln Leu Phe
 100 105 110
 Phe Tyr Ser Pro Gly Cys Ser Ser Asp Trp Val Glu Phe Thr Glu Val
 115 120 125
 Ile Cys His Leu Asn Asp Ser Ile Gly Leu Gly Gly Val Leu Leu Cys
 130 135 140
 Cys Gly Leu Phe Glu Gln Cys Glu His Val Val Thr Val Asn Lys
 145 150 155 160
 Lys Leu Asp Leu Pro Leu Leu Leu Gly Thr Thr Val Val Asn Ser Leu
 165 170 175
 Arg Tyr Tyr Leu Thr Tyr Arg Asn Ile Ser Leu Leu Asn Cys Gln Ser
 180 185 190

Met Ser Glu Leu Gly Lys Glu Leu Gly Asp Val Leu Lys Gln His Gly
 195 200 205
 Val Ala Phe Thr Leu Ile Phe Lys Glu Ile Val Asp Ile Asp Leu Leu
 210 215 220
 Asn Tyr Val Lys Leu Ile Gln Gly Leu Lys Arg Ser Gly Asn Ile Gln
 225 230 235 240
 Ala Arg Ile Tyr Asp Asn Asp Val Pro Thr Leu Pro Ser Val Ser Ser
 245 250 255
 Ser Pro Ile Ala Leu Arg Tyr Ser Leu Ala Asn Thr Ile Arg Gly Leu
 260 265 270
 Ala Leu His Val Asp Phe Ser Ser Leu Lys Phe Ile Ser Pro Ser Ile
 275 280 285
 Leu Ser Asn Thr Glu His Thr Ala Lys Ala Leu Asn Ser Gly Gly Glu
 290 295 300
 Cys Phe Ile Phe Ser Asn Leu Asp Glu Phe Asn Leu Gly Met Lys Ile
 305 310 315 320
 Val Met Gln Leu Leu Arg Thr Gly Lys Ile Ser Pro Glu Ile Leu Asn
 325 330 335
 Lys Asn Ile Met Lys Ile Leu Met Ile Lys Arg Arg Val Arg Ser Leu
 340 345 350
 Tyr Ile

<210> 306
 <211> 356
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0304

<400> 306
 Asp Gln Lys Pro Leu Pro Lys Arg Leu Pro Tyr Lys Lys Val Met Asp
 1 5 10 15
 Ser Ser Ala Pro Tyr Asn Ile Ala Ser Gln Gly Thr Glu Lys Ser Thr
 20 25 30
 Val Glu Arg Ile Leu Asp Leu Tyr Gly Pro Ala Ser Cys Ile Lys Phe
 35 40 45
 Leu Lys Gln Met Val Leu Ile Arg Glu Phe Glu Ala Arg Gly Glu Glu
 50 55 60
 Ala Tyr Leu Glu Gly Leu Val Gly Gly Phe Tyr His Ser Tyr Ala Gly
 65 70 75 80
 Gln Glu Ala Val Ala Thr Ala Ala Ile Ala Asn Thr Gly Leu Asp Pro
 85 90 95
 Trp Val Phe Ser Ser Tyr Arg Cys His Ala Leu Ala Ile Leu Leu Asn
 100 105 110
 Ile Pro Leu Gln Glu Ile Ala Ala Glu Leu Leu Gly Lys Glu Thr Gly
 115 120 125
 Cys Ala Leu Gly Arg Gly Gly Ser Met His Met Cys Gly Pro Asn Phe
 130 135 140
 Pro Gly Gly Phe Gly Ile Val Gly Gly Gln Ile Pro Leu Ala Ala Gly
 145 150 155 160
 Ala Ala Phe Thr Ile Lys Tyr Gln Glu Gln Lys Asn Arg Val Ser Leu
 165 170 175
 Cys Phe Ile Gly Asp Gly Ala Val Ala Gln Gly Val Phe His Glu Thr
 180 185 190
 Leu Asn Phe Val Ser Leu His Gln Leu Pro Leu Met Leu Ile Ile Glu
 195 200 205
 Asn Asn Gly Trp Ser Met Gly Thr Ser Leu Asn Arg Ala Val Ala Lys
 210 215 220

Gln Pro Ile Ala Glu Ser Gln Gly Ser Ser Tyr Asp Ile Arg Ala Val
 225 230 235 240
 Thr Val Asn Gly Phe Asp Leu Phe Asn Ser Leu Leu Gly Phe Arg Glu
 245 250 255
 Ala Tyr Arg Tyr Met Val Asp Thr Glu Ser Pro Val Leu Val Glu Cys
 260 265 270
 Leu Cys Ser Arg Phe Arg Gly His Ser Ile Ser Asp Pro Asn Leu Tyr
 275 280 285
 Arg Ser Lys Glu Glu Met Gln Cys Leu Phe Lys Lys Asp Pro Ile Val
 290 295 300
 Leu Ala Lys Asp Trp Leu Ile Arg Leu Glu Val Leu Thr Glu Glu Glu
 305 310 315 320
 Phe Gln Asn Ile Arg Gln Glu Cys Lys Thr Ala Val Leu Glu Ala Phe
 325 330 335
 Ser Asn Ala Lys Leu Ser Ser Asp Pro Ser Val Thr Thr Leu Glu Glu
 340 345 350
 Gly Val Tyr Ala
 355

<210> 307
 <211> 332
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0305

<400> 307
 Arg Lys Glu Ser Met Pro Lys His Lys Thr Leu Glu Ile Arg Glu Ala
 1 5 10 15
 Leu Arg Glu Ala Ile Asp Glu Glu Met Ser Arg Asp Pro Asn Val Cys
 20 25 30
 Ile Leu Gly Glu Glu Val Gly Asp Tyr Asn Gly Ala Tyr Lys Val Thr
 35 40 45
 Lys Gly Leu Leu Asp Lys Trp Gly Pro Lys Arg Val Ile Asp Ala Pro
 50 55 60
 Ile Ser Glu Ala Ala Phe Ser Gly Ile Gly Ile Gly Ala Ala Leu Ser
 65 70 75 80
 Gly Leu Arg Pro Ile Ile Glu Phe Met Ser Trp Asn Phe Ser Phe Val
 85 90 95
 Ala Leu Asp Gln Ile Ile Ser His Ala Ala Lys Met His Phe Met Thr
 100 105 110
 Gly Gly Lys Phe Ser Val Pro Ile Val Phe Arg Gly Pro Asn Gly Ala
 115 120 125
 Ala Ala Gln Val Ser Cys Gln His Ser His Cys Val Glu Ser Leu Tyr
 130 135 140
 Ala Asn Ile Pro Gly Leu Ile Ile Ile Ala Pro Ser Asn Pro Tyr Asp
 145 150 155 160
 Ala Lys Gly Leu Leu Lys Ser Ala Ile Arg Asn Asn Asn Pro Val Leu
 165 170 175
 Phe Leu Glu Asn Glu Leu Glu Tyr Asn Leu Lys Gly Glu Val Pro Thr
 180 185 190
 Glu Glu Tyr Leu Val Pro Ile Gly Lys Ala His Arg Val Gln Glu Gly
 195 200 205
 Asn Asp Leu Thr Ile Ile Thr Tyr Ser Arg Met Val Ser Ile Thr Lys
 210 215 220
 Glu Ala Cys Ser Leu Ala Lys Lys Arg Trp Gly Leu Ser Ile Glu Ile
 225 230 235 240
 Ile Asp Leu Arg Thr Ile Lys Pro Leu Asp Ile Ser Thr Ile Leu Ser
 245 250 255

Ser Val Arg Lys Thr Ser Arg Cys Ile Val Ile Glu Glu Gly His Tyr
260 265 270
Phe Ala Gly Ile Ser Ser Glu Ile Ala Leu Ile Thr Glu His Val
275 280 285
Phe Asp Ser Leu Asp Ala Pro Pro Leu Arg Val Cys Gln Lys Glu Thr
290 295 300
Pro Met Pro Tyr Ser Lys Ile Leu Glu Gln Ala Thr Leu Pro Asn Val
305 310 315 320
Asn Arg Ile Leu Asp Thr Ile Glu Lys Val Met Arg
325 330

<210> 308
<211> 432
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0306

<400> 308
Gly Lys Phe Val Ile Ser Leu Leu Lys Met Pro Lys Leu Ser Pro Thr
1 5 10 15
Met Glu Val Gly Thr Ile Val Lys Trp His Lys Lys Ser Asn Asp Gln
20 25 30
Val Ser Phe Gly Asp Val Ile Val Glu Ile Ser Thr Asp Lys Ala Ile
35 40 45
Leu Glu His Thr Ala Asn Glu Asp Gly Trp Ile Arg Glu Ile Leu Arg
50 55 60
His Glu Gly Glu Lys Ile Val Ile Gly Thr Pro Ile Ala Val Leu Ser
65 70 75 80
Thr Glu Ala Asn Glu Pro Phe Asn Leu Glu Glu Leu Leu Pro Lys Thr
85 90 95
Glu Pro Ser Asn Leu Glu Ala Ser Pro Lys Gly Ser Ser Glu Glu Val
100 105 110
Ser Pro Ala Thr Thr Pro Gln Ala Ala Ser Ala Thr Phe Thr Ala Val
115 120 125
Thr Phe Lys Pro Glu Pro Pro Leu Ser Ser Pro Leu Val Phe Lys His
130 135 140
Val Gly Thr Thr Asn Asn Leu Ser Pro Leu Ala Arg Gln Leu Ala Lys
145 150 155 160
Glu Lys Asn Ile Asp Val Ser Ser Ile Gln Gly Ser Gly Pro Gly Gly
165 170 175
Arg Ile Val Lys Lys Asp Leu Glu Lys Ala Pro Pro Lys Ser Ile Ala
180 185 190
Gly Phe Gly Tyr Pro Glu Ser Pro Glu Val Pro Pro Gly Ser Tyr His
195 200 205
Glu Glu Asn Leu Ser Pro Ile Arg Glu Val Ile Ala Ala Arg Leu Gln
210 215 220
Ala Ala Lys Ile Ser Ile Pro His Phe Tyr Val Arg Gln Gln Val Tyr
225 230 235 240
Ala Ser Pro Leu Leu Asn Leu Leu Lys Glu Leu Gln Ala Gln Gly Ile
245 250 255
Lys Leu Ser Ile Asn Asp Cys Ile Val Arg Ala Cys Ala Leu Ala Leu
260 265 270
Lys Glu Phe Pro Ser Ile Asn Ser Gly Phe Asn Ser Val Asp Asn Lys
275 280 285
Ile Val Arg Phe Asp Thr Ile Asp Ile Ser Ile Ala Val Ala Ile Pro
290 295 300
Asp Gly Ile Ile Thr Pro Ile Ile Arg Cys Ala Asp Arg Lys Asn Leu
305 310 315 320

Glu Leu Arg Leu Lys Gln Glu Tyr Phe Leu Val Ser Ala Thr Ile Gln
 290 295 300
 Asp Ile Ile Arg Arg Tyr Thr Lys Thr His Ile Cys Leu Asp Asn Leu
 305 310 315 320
 Ala Asp Lys Val Val Val Gln Leu Asn Asp Thr His Pro Ala Leu Gly
 325 330 335
 Ile Ala Glu Met Met His Ile Leu Val Asp Arg Glu Glu Leu Pro Trp
 340 345 350
 Asp Lys Ala Trp Glu Met Thr Thr Val Ile Phe Asn Tyr Thr Asn His
 355 360 365
 Thr Ile Leu Pro Glu Ala Leu Glu Arg Trp Pro Leu Asp Leu Phe Ser
 370 375 380
 Lys Leu Leu Pro Arg His Leu Glu Ile Ile Tyr Glu Ile Asn Ser Arg
 385 390 395 400
 Trp Leu Glu Lys Val Gly Ser Arg Tyr Pro Lys Asn Asp Asp Lys Arg
 405 410 415
 Arg Ser Leu Ser Ile Val Glu Glu Gly Tyr Gln Lys Arg Ile Asn Met
 420 425 430
 Ala Asn Leu Ala Val Val Gly Ser Ala Lys Val Asn Gly Val Ser Ser
 435 440 445
 Phe His Ser Gln Leu Ile Lys Asp Thr Leu Phe Lys Glu Phe Tyr Glu
 450 455 460
 Phe Phe Pro Glu Lys Phe Ile Asn Val Thr Asn Gly Val Thr Pro Arg
 465 470 475 480
 Arg Trp Ile Ala Leu Cys Asn Pro Arg Leu Ser Lys Leu Leu Asn Glu
 485 490 495
 Thr Ile Gly Asp Arg Tyr Ile Ile Asp Leu Ser His Leu Ser Leu Ile
 500 505 510
 Arg Ser Phe Ala Glu Asp Ser Gly Phe Arg Asp His Trp Lys Gly Val
 515 520 525
 Lys Leu Lys Asn Lys Gln Asp Leu Thr Ser Arg Ile Tyr Asn Glu Val
 530 535 540
 Gly Glu Ile Val Asp Pro Asn Ser Leu Phe Asp Cys His Ile Lys Arg
 545 550 555 560
 Ile His Glu Tyr Lys Arg Gln Leu Met Asn Ile Leu Arg Val Ile Tyr
 565 570 575
 Val Tyr Asn Asp Leu Lys Glu Asn Pro Asn Gln Asp Val Val Pro Thr
 580 585 590
 Thr Val Ile Phe Ser Gly Lys Ala Ala Pro Gly Tyr Val Met Ala Lys
 595 600 605
 Leu Ile Ile Lys Leu Ile Asn Ser Val Ala Asp Val Val Asn Gln Asp
 610 615 620
 Ser Arg Val Asn Asp Lys Leu Lys Val Leu Phe Leu Pro Asn Tyr Arg
 625 630 635 640
 Val Ser Met Ala Glu His Ile Ile Pro Gly Thr Asp Leu Ser Glu Gln
 645 650 655
 Ile Ser Thr Ala Gly Met Glu Ala Ser Gly Thr Gly Asn Met Lys Phe
 660 665 670
 Ala Leu Asn Gly Ala Leu Thr Ile Gly Thr Met Asp Gly Ala Asn Ile
 675 680 685
 Glu Met Ala Glu His Ile Gly Lys Glu Asn Met Phe Ile Phe Gly Leu
 690 695 700
 Leu Glu Glu Gln Ile Val Gln Leu Arg Arg Glu Tyr Cys Pro Gln Thr
 705 710 715 720
 Ile Cys Asp Lys Asn Pro Lys Ile Arg Gln Val Leu Asp Leu Leu Glu
 725 730 735
 Gln Gly Phe Phe Asn Ser Asn Asp Lys Asp Leu Phe Lys Pro Ile Val
 740 745 750
 His Arg Leu Leu His Glu Gly Asp Pro Phe Phe Val Leu Ala Asp Leu
 755 760 765

Glu Ser Tyr Ile Ala Ala His Glu Asn Val Asn Lys Leu Phe Lys Glu
770 775 780
Pro Asp Ser Trp Thr Lys Ile Ser Ile Tyr Asn Thr Ala Gly Met Gly
785 790 795 800
Phe Phe Ser Ser Asp Arg Ala Ile Gln Asp Tyr Ala Arg Asp Ile Trp
805 810 815
His Val Pro Thr Lys Ser Cys Ser Gly Glu Gly Asn
820 825

<210> 310
<211> 128
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0308

<400> 310
Phe Phe Thr Gln Glu Asn Asn Met Ala Thr Val Ala Gln Thr Pro Gln
1 5 10 15
Thr Thr Gln Pro Gln Pro Ser Val Ser His Lys Ala Thr His Arg Tyr
20 25 30
Cys Ser Trp Val Phe Phe Lys Pro Ile Leu Val Ser Leu Gly Leu Leu
35 40 45
Leu Ala Ser Leu Thr Thr Leu Gly Leu Val Ile Ala Ser Gly Val Thr
50 55 60
Leu Ser Leu Gly Ile Gly Ile Val Leu Ala Ile Gln Ile Val Leu Ala
65 70 75 80
Gly Ile Ala Leu Val Leu Ala Phe Asn His Ile Arg Gln Phe Lys Gln
85 90 95
Ala Arg Thr Ala Glu Leu Asn Ser Met Lys Met Ile Ser Ala Pro Ala
100 105 110
Ala Ala Thr Val Gln Lys Gln Lys Leu Glu Asp Arg Tyr Ser Ser Lys
115 120 125

<210> 311
<211> 461
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0309

<400> 311
Phe Met Arg Ala Trp Glu Glu Phe Leu Leu Gln Glu Lys Glu Ile
1 5 10 15
Gly Thr Asn Thr Val Asp Lys Trp Leu Arg Ser Leu Lys Val Leu Cys
20 25 30
Phe Asp Ala Cys Asn Leu Tyr Leu Glu Ala Gln Asp Ser Phe Gln Ile
35 40 45
Thr Trp Phe Glu Glu His Ile Arg His Lys Val Lys Ser Gly Leu Val
50 55 60
Asn Asn Asn Asn Lys Pro Ile Arg Val His Val Thr Ser Val Asp Lys
65 70 75 80
Ala Ala Pro Phe Tyr Lys Glu Lys Gln Met Gln Gln Glu Lys Thr Ala
85 90 95
Tyr Phe Thr Met His Tyr Gly Ser Val Asn Pro Glu Met Thr Phe Ser
100 105 110
Asn Phe Leu Val Thr Pro Glu Asn Asp Leu Pro Phe Arg Val Leu Gln
115 120 125

Glu Phe Thr Lys Ser Pro Asp Glu Asn Gly Gly Val Thr Phe Asn Pro
 130 135 140
 Ile Tyr Leu Phe Gly Pro Glu Gly Ser Gly Lys Thr His Leu Met Gln
 145 150 155 160
 Ser Ala Ile Ser Val Leu Arg Glu Ser Gly Gly Lys Ile Leu Tyr Val
 165 170 175
 Ser Ser Asp Leu Phe Thr Glu His Leu Val Ser Ala Ile Arg Ser Gly
 180 185 190
 Glu Met Gln Lys Phe Arg Ser Phe Tyr Arg Asn Ile Asp Ala Leu Phe
 195 200 205
 Ile Glu Asp Ile Glu Val Phe Ser Gly Lys Ser Ala Thr Gln Glu Glu
 210 215 220
 Phe Phe His Thr Phe Asn Ser Leu His Ser Glu Gly Lys Leu Ile Val
 225 230 235 240
 Val Ser Ser Ser Tyr Ala Pro Val Asp Leu Val Ala Val Glu Asp Arg
 245 250 255
 Leu Ile Ser Arg Phe Glu Trp Gly Val Ala Ile Pro Ile His Pro Leu
 260 265 270
 Val Gln Glu Gly Leu Arg Ser Phe Leu Met Arg Gln Val Glu Arg Leu
 275 280 285
 Ser Ile Arg Ile Gln Glu Thr Ala Leu Asp Phe Leu Ile Tyr Ala Leu
 290 295 300
 Ser Ser Asn Val Lys Thr Leu Leu His Ala Leu Asn Leu Leu Ala Lys
 305 310 315 320
 Arg Val Met Tyr Lys Lys Leu Ser His Gln Leu Leu Tyr Glu Asp Asp
 325 330 335
 Val Lys Thr Leu Leu Lys Asp Val Leu Glu Ala Ala Gly Ser Val Arg
 340 345 350
 Leu Thr Pro Leu Lys Ile Ile Arg Asn Val Ala Gln Tyr Tyr Gly Val
 355 360 365
 Ser Gln Glu Ser Ile Leu Gly Arg Ser Gln Ser Arg Glu Tyr Val Leu
 370 375 380
 Pro Arg Gln Val Ala Met Tyr Phe Cys Arg Gln Lys Leu Ser Leu Ser
 385 390 395 400
 Tyr Val Arg Ile Gly Asp Val Phe Ser Arg Asp His Ser Thr Val Ile
 405 410 415
 Ser Ser Ile Arg Leu Ile Glu Gln Lys Ile Glu Glu Asn Ser His Asp
 420 425 430
 Ile His Met Ala Ile Gln Asp Ile Ser Lys Asn Leu Asn Ser Leu His
 435 440 445
 Lys Ser Leu Glu Phe Phe Pro Ser Glu Glu Met Ile Ile
 450 455 460

<210> 312
 <211> 808
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0310

<400> 312
 Tyr Phe Asp Leu Leu Ser Leu Ile Phe Arg Val Tyr Gln Met Asn Lys
 1 5 10 15
 Arg Thr Leu Leu Phe Val Ser Leu Ile Gly Ile Ala Phe Val Gly Cys
 20 25 30
 Gln Ile Phe Phe Gly Tyr Asn Glu Phe Arg Ser Cys Lys Asn Leu Ala
 35 40 45
 Glu Lys Gln Arg Lys Ile Ser Glu Gln Thr Leu Ala Ala Val Glu Ser
 50 55 60

Val Gly Leu Ser Val Ala Ser Trp Asp Thr Asp Val Asn Gly Glu Glu
 65 70 75 80
 His Lys Asn Asn Tyr Ala Val Arg Val Gly Asp Lys Leu Phe Leu Leu
 85 90 95
 His Asn Gly Glu Ala Ala Gln Ser Val Tyr Ser Ser Gly Glu Ser Trp
 100 105 110
 Ser Phe Val Asp His Lys Cys Gly Phe Asp Asn Ile His Leu Ala Leu
 115 120 125
 Tyr Arg Gln Gln Gly Ser Ser Phe Asn Pro Thr Asn Thr Gly Lys Val
 130 135 140
 Phe Leu Pro Thr Asn His Glu Gly Leu Pro Val Leu Val Val Glu Phe
 145 150 155 160
 Arg Asn Asn Lys Glu Pro Leu Val Phe Leu Gly Glu Tyr Ala Gln Gly
 165 170 175
 Arg Ile Ser Asn Lys Asp Ser Thr Ile Phe Gly Thr Ala Leu Val Phe
 180 185 190
 Trp Arg Ser Gly Ser Asp Tyr Ile Pro Leu Gly Leu Tyr Asp Ser Arg
 195 200 205
 Glu Glu Lys Leu Val Ser Leu Asp Leu Pro Ile Thr Arg Ala Val Ile
 210 215 220
 Phe Gly Asn Asp Gln Asp Ser Ala Lys Ser Ser Asp Thr Ala Asn His
 225 230 235 240
 Tyr Val Leu Phe Asn Asp Tyr Met Gln Ile Ile Val Ser Glu Glu Ser
 245 250 255
 Gly Ser Ile Glu Gly Ile Asn Leu Pro Phe Ala Ser Thr Asn Asn Lys
 260 265 270
 Ser Ile Val Asn Glu Ile Gly Phe Asp Arg Asp Leu Ala Ser Glu Lys
 275 280 285
 Ser Pro Glu Ala Leu Phe Pro Gly Leu Ser Ser Lys Leu Pro Asp Gly
 290 295 300
 Gln Gln Ala Lys Asn Ser Ile Gly Gly Tyr Tyr Pro Leu Leu Arg Arg
 305 310 315 320
 Gly Leu Leu Ser Asp Ser Lys Lys Leu Leu Pro Leu Glu Tyr His Ala
 325 330 335
 Leu Asn Val Val Ser Gly Arg Glu Leu Ala Thr Pro Val Ala Leu Arg
 340 345 350
 Tyr Arg Val Leu Ser Tyr Thr Pro His Ser Ile Gln Leu Glu Ser Leu
 355 360 365
 Asp Arg Ser Val Gln Lys Val Tyr Lys Leu Pro Glu Asn Pro Glu Glu
 370 375 380
 Lys Pro Tyr Val Phe Glu Thr Ala Ile Thr Leu Thr Lys Glu Thr Glu
 385 390 395 400
 Asp Val Trp Val Thr Ser Gly Val Pro Glu Val Glu Ile Met Ser Asn
 405 410 415
 Ala Ser Ala Pro Thr Ile Lys Tyr Arg Val Ile Lys Lys Asn Lys Gly
 420 425 430
 Ser Leu Asp Lys Val Lys Leu Pro Lys Val Lys Glu Pro Leu Ala Ile
 435 440 445
 Arg Arg Gly Val Tyr Pro Gln Trp Ile Leu Asn Ser Asn Gly Tyr Phe
 450 455 460
 Gly Ile Ile Leu Thr Pro Leu Ser Glu Ile Ala Ser Gly Tyr Gly Ser
 465 470 475 480
 Leu Tyr Ile Ser Gly Ser Thr Ala Pro Thr Arg Leu Ser Ala Ile Ser
 485 490 495
 Pro Lys Asn Gln Leu Tyr Pro Val Ser Lys Tyr Pro Gly Tyr Glu Thr
 500 505 510
 Leu Leu Pro Leu Pro Lys Asp Ala Gly Thr His Arg Phe Leu Val Tyr
 515 520 525
 Ala Gly Pro Leu Ala Glu Pro Thr Leu Lys Val Leu Asp Lys Thr Ile
 530 535 540

Thr Gln Glu Lys Gly Glu Asn Pro Glu Tyr Leu Asp Ser Ile Ser Phe
 545 550 555 560
 Arg Gly Val Phe Ala Phe Ile Thr Ala Pro Phe Ala Ala Leu Leu Phe
 565 570 575
 Ile Ile Met Lys Phe Phe Lys Leu Val Thr Gly Ser Trp Gly Ile Ser
 580 585 590
 Ile Ile Leu Leu Thr Val Phe Leu Lys Leu Leu Leu Tyr Pro Leu Asn
 595 600 605
 Ala Trp Ser Ile Arg Ser Met Arg Arg Met Gln Ile Leu Ser Pro Tyr
 610 615 620
 Ile Gln Gln Ile Gln Gln Lys Tyr Lys Asn Glu Pro Lys Arg Ala Gln
 625 630 635 640
 Met Glu Ile Met Gly Leu Tyr Lys Thr Asn Lys Val Asn Pro Ile Thr
 645 650 655
 Gly Cys Leu Pro Leu Leu Ile Gln Leu Pro Phe Leu Ile Ala Met Phe
 660 665 670
 Asp Leu Leu Lys Ser Ser Phe Leu Leu Arg Gly Ala Ser Phe Ile Pro
 675 680 685
 Gly Trp Ile Asp Asn Leu Thr Ala Pro Asp Val Leu Phe Ser Trp Gln
 690 695 700
 Thr Ser Ile Trp Phe Ile Gly Asn Glu Phe His Leu Leu Pro Ile Leu
 705 710 715 720
 Leu Gly Ile Val Met Phe Leu Gln Gln Lys Val Thr Ser Leu His Lys
 725 730 735
 Lys Gly Pro Val Thr Asp Gln Gln Lys Gln Gln Gln Val Met Gly Asn
 740 745 750
 Met Met Ala Ile Leu Phe Thr Ala Met Phe Tyr Asn Phe Pro Ser Gly
 755 760 765
 Leu Asn Ile Tyr Trp Leu Ser Ser Met Ile Leu Gly Val Val Gln Gln
 770 775 780
 Trp Ile Thr Asn Lys Ile Leu Asp Ser Lys His Leu Lys Asn Glu Val
 785 790 795 800
 Val Leu Asn Asn Lys Lys His Arg
 805

<210> 313
 <211> 293
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0311

<400> 313
 Asp Met Arg Ala Glu Met Ala Val Ile Tyr Trp Asp Arg Ser Lys Ile
 1 5 10 15
 Val Trp Ser Phe Glu Pro Trp Ser Leu Arg Leu Thr Trp Tyr Gly Val
 20 25 30
 Phe Phe Thr Val Gly Ile Phe Leu Ala Cys Leu Ser Ala Arg Tyr Leu
 35 40 45
 Ala Leu Ser Tyr Tyr Gly Leu Lys Asp His Leu Ser Phe Ser Lys Ser
 50 55 60
 Gln Leu Arg Val Ala Leu Glu Asn Phe Phe Ile Tyr Ser Ile Leu Phe
 65 70 75 80
 Ile Val Pro Gly Ala Arg Leu Ala Tyr Val Ile Phe Tyr Gly Trp Ser
 85 90 95
 Phe Tyr Leu Gln His Pro Glu Glu Ile Ile Gln Ile Trp His Gly Gly
 100 105 110
 Leu Ser Ser His Gly Gly Val Leu Gly Phe Leu Leu Trp Ala Ala Ile
 115 120 125

Phe Ser Trp Ile Tyr Lys Lys Lys Ile Ser Lys Leu Thr Phe Leu Phe
 130 135 140
 Leu Thr Asp Leu Cys Gly Ser Val Phe Gly Ile Ala Ala Phe Phe Ile
 145 150 155 160
 Arg Leu Gly Asn Phe Trp Asn Gln Glu Ile Val Gly Thr Pro Thr Ser
 165 170 175
 Leu Pro Trp Gly Val Val Phe Ser Asp Pro Met Gln Gly Val Gln Gly
 180 185 190
 Val Pro Val His Pro Val Gln Leu Tyr Glu Gly Ile Ser Tyr Leu Val
 195 200 205
 Val Ser Gly Ile Leu Tyr Phe Leu Ser Tyr Lys Arg Tyr Leu His Leu
 210 215 220
 Gly Lys Gly Tyr Val Thr Ser Ile Ala Cys Ile Ser Val Ala Phe Ile
 225 230 235 240
 Arg Phe Phe Ala Glu Tyr Val Lys Ser His Gln Gly Lys Val Leu Ala
 245 250 255
 Glu Asp Cys Leu Leu Thr Ile Gly Gln Ile Leu Ser Ile Pro Leu Phe
 260 265 270
 Leu Phe Gly Val Ala Leu Leu Ile Cys Ser Leu Lys Ala Arg Arg
 275 280 285
 His Arg Ser His Ile
 290

<210> 314
 <211> 153
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0312

<400> 314
 Cys Thr Met Ala Arg Asn Ile Lys Tyr Phe Leu Ile Leu Phe Pro Gly
 1 5 10 15
 Ile Leu Trp Ile Ser Ala Gly Met Lys Leu Leu Leu Lys Ala Thr Ala
 20 25 30
 Ile Ala Leu Asp Pro Leu Ser Ser Phe Phe Thr Tyr Cys Leu Leu Ser
 35 40 45
 Met Val Ser Trp Gly Leu Ala Ser Leu Lys His Arg Tyr Leu Leu Ser
 50 55 60
 Lys Thr Ile Arg Lys Gln Leu Ser Leu Ser Ser Glu Phe Phe Ser Gln
 65 70 75 80
 Lys Ile Thr Trp Ile Ala Tyr Ile Lys Gln Thr Phe Ile Ser Arg Arg
 85 90 95
 Phe Leu Ile Met Val Ile Met Ile Ala Phe Ser Leu Val Leu Arg Arg
 100 105 110
 Tyr Ile Ser Asn Pro Gln Ala Leu Phe Val Ile Arg Ala Thr Val Gly
 115 120 125
 Tyr Ala Leu Ile Lys Thr Ala Ile Ala Tyr Phe Ser Lys Leu Gln Asn
 130 135 140
 Ala Leu Met Glu Asn Pro Glu Gly Asn
 145 150

<210> 315
 <211> 133
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0313

<400> 315
 Trp Lys Ile Leu Lys Glu Ile Ser Ala Asn Ser Met Glu Ile Ile His
 1 5 10 15
 Ile Gly Thr Asp Ile Ile Glu Ile Ser Arg Ile Arg Glu Ala Ile Ala
 20 25 30
 Thr His Gly Asn Arg Leu Leu Asn Arg Ile Phe Thr Glu Ala Glu Gln
 35 40 45
 Lys Tyr Cys Leu Glu Lys Thr Asp Pro Ile Pro Ser Phe Ala Gly Arg
 50 55 60
 Phe Ala Gly Lys Glu Ala Val Ala Lys Ala Leu Gly Thr Gly Ile Gly
 65 70 75 80
 Ser Val Val Ala Trp Lys Asp Ile Glu Val Phe Lys Val Ser His Gly
 85 90 95
 Pro Glu Val Leu Leu Pro Ser His Val Tyr Ala Lys Ile Gly Ile Ser
 100 105 110
 Lys Val Ile Leu Ser Ile Ser His Cys Lys Glu Tyr Ala Thr Ala Thr
 115 120 125
 Ala Ile Ala Leu Ala
 130

<210> 316
 <211> 311
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0314

<400> 316
 Met Ile His Ser Arg Leu Ile Ile Ile Gly Ser Gly Pro Ser Gly Tyr
 1 5 10 15
 Thr Ala Ala Ile Tyr Ala Ser Arg Ala Leu Leu His Pro Leu Leu Phe
 20 25 30
 Glu Gly Phe Phe Ser Gly Ile Ser Gly Gly Gln Leu Met Thr Thr Thr
 35 40 45
 Glu Val Glu Asn Phe Pro Gly Phe Pro Glu Gly Ile Leu Gly Pro Lys
 50 55 60
 Leu Met Asn Asn Met Lys Glu Gln Ala Val Arg Phe Gly Thr Lys Thr
 65 70 75 80
 Leu Ala Gln Asp Ile Ile Ser Val Asp Phe Ser Val Arg Pro Phe Ile
 85 90 95
 Leu Lys Ser Lys Glu Glu Thr Tyr Ser Cys Asp Ala Cys Ile Ile Ala
 100 105 110
 Thr Gly Ala Ser Ala Lys Arg Leu Glu Ile Pro Gly Ala Gly Asn Asp
 115 120 125
 Glu Phe Trp Gln Lys Gly Val Thr Ala Cys Ala Val Cys Asp Gly Ala
 130 135 140
 Ser Pro Ile Phe Lys Asn Lys Asp Leu Tyr Val Ile Gly Gly Gly Asp
 145 150 155 160
 Ser Ala Leu Glu Glu Ala Leu Tyr Leu Thr Arg Tyr Gly Ser His Val
 165 170 175
 Tyr Val Val His Arg Arg Asp Lys Leu Arg Ala Ser Lys Ala Met Glu
 180 185 190
 Ala Arg Ala Gln Asn Asn Glu Lys Ile Thr Phe Leu Trp Asn Ser Glu
 195 200 205
 Ile Val Lys Ile Ser Gly Asp Ser Ile Val Arg Ser Val Asp Ile Lys
 210 215 220
 Asn Val Gln Thr Gln Glu Ile Thr Thr Arg Glu Ala Ala Gly Val Phe
 225 230 235 240
 Phe Ala Ile Gly His Lys Pro Asn Thr Asp Phe Leu Gly Gly Gln Leu
 245 250 255

Thr Leu Asp Glu Ser Gly Tyr Ile Val Thr Glu Lys Gly Thr Ser Lys
 260 265 270
 Thr Ser Val Pro Gly Val Phe Ala Ala Gly Asp Val Gln Asp Lys Tyr
 275 280 285
 Tyr Arg Gln Ala Val Thr Ser Ala Gly Ser Gly Cys Ile Ala Ala Leu
 290 295 300
 Asp Ala Glu Arg Phe Leu Gly
 305 310

<210> 317
 <211> 580
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0315

<400> 317
 Met Pro Lys Gln Ala Glu Tyr Thr Trp Gly Ser Lys Lys Ile Leu Asp
 1 5 10 15
 Asn Ile Glu Cys Leu Thr Glu Asp Val Ala Glu Phe Lys Asp Leu Leu
 20 25 30
 Tyr Thr Ala His Arg Ile Thr Ser Ser Glu Glu Glu Ser Asp Asn Glu
 35 40 45
 Ile Gln Pro Gly Ala Ile Leu Lys Gly Thr Val Val Asp Ile Asn Lys
 50 55 60
 Asp Phe Val Val Val Asp Val Gly Leu Lys Ser Glu Gly Val Ile Pro
 65 70 75 80
 Met Ser Glu Phe Ile Asp Ser Ser Glu Gly Leu Val Leu Gly Ala Glu
 85 90 95
 Val Glu Val Tyr Leu Asp Gln Ala Glu Asp Glu Glu Gly Lys Val Val
 100 105 110
 Leu Ser Arg Glu Lys Ala Thr Arg Gln Arg Gln Trp Glu Tyr Ile Leu
 115 120 125
 Ala His Cys Glu Glu Gly Ser Ile Val Lys Gly Gln Ile Thr Arg Lys
 130 135 140
 Val Lys Gly Gly Leu Ile Val Asp Ile Gly Met Glu Ala Phe Leu Pro
 145 150 155 160
 Gly Ser Gln Ile Asp Asn Lys Lys Ile Lys Asn Leu Asp Asp Tyr Val
 165 170 175
 Gly Lys Val Cys Glu Phe Lys Ile Leu Lys Ile Asn Val Glu Arg Arg
 180 185 190
 Asn Ile Val Val Ser Arg Arg Glu Leu Leu Glu Ala Glu Arg Ile Ser
 195 200 205
 Lys Lys Ala Glu Leu Ile Glu Gln Ile Ser Ile Gly Glu Tyr Arg Lys
 210 215 220
 Gly Val Val Lys Asn Ile Thr Asp Phe Gly Val Phe Leu Asp Leu Asp
 225 230 235 240
 Gly Ile Asp Gly Leu Leu His Ile Thr Asp Met Thr Trp Lys Arg Ile
 245 250 255
 Arg His Pro Ser Glu Met Val Glu Leu Asn Gln Glu Leu Glu Val Ile
 260 265 270
 Ile Leu Ser Val Asp Lys Glu Lys Gly Arg Val Ala Leu Gly Leu Lys
 275 280 285
 Gln Lys Glu His Asn Pro Trp Glu Asp Ile Glu Lys Lys Tyr Pro Pro
 290 295 300
 Gly Lys Arg Val Leu Gly Lys Ile Val Lys Leu Leu Pro Tyr Gly Ala
 305 310 315 320
 Phe Ile Glu Ile Glu Glu Gly Ile Glu Gly Leu Ile His Ile Ser Glu
 325 330 335

Met Ser Trp Val Lys Asn Ile Val Asp Pro Ser Glu Val Val Asn Lys
 340 345 350
 Gly Asp Glu Val Glu Ala Ile Val Leu Ser Ile Gln Lys Asp Glu Gly
 355 360 365
 Lys Ile Ser Leu Gly Leu Lys Gln Thr Glu Arg Asn Pro Trp Asp Asn
 370 375 380
 Ile Glu Glu Lys Tyr Pro Ile Gly Leu His Val Asn Ala Glu Ile Lys
 385 390 395 400
 Asn Leu Thr Asn Tyr Gly Ala Phe Val Glu Leu Glu Pro Gly Ile Glu
 405 410 415
 Gly Leu Ile His Ile Ser Asp Met Ser Trp Ile Lys Lys Val Ser His
 420 425 430
 Pro Ser Glu Leu Phe Lys Lys Gly Asn Ser Val Glu Ala Val Ile Leu
 435 440 445
 Ser Val Asp Lys Glu Ser Lys Lys Ile Thr Leu Gly Val Lys Gln Leu
 450 455 460
 Ser Ser Asn Pro Trp Asn Glu Ile Glu Ala Met Phe Pro Ala Gly Thr
 465 470 475 480
 Val Ile Ser Gly Val Val Thr Lys Ile Thr Ala Phe Gly Ala Phe Val
 485 490 495
 Glu Leu Gln Asn Gly Ile Glu Gly Leu Ile His Val Ser Glu Leu Ser
 500 505 510
 Asp Lys Pro Phe Ala Lys Ile Glu Asp Ile Ile Ser Ile Gly Glu Asn
 515 520 525
 Val Ser Ala Lys Val Ile Lys Leu Asp Pro Asp His Lys Lys Val Ser
 530 535 540
 Leu Ser Val Lys Glu Tyr Leu Ala Asp Asn Ala Tyr Asp Gln Asp Ser
 545 550 555 560
 Arg Thr Glu Leu Asp Phe Lys Asp Ser Gln Gly Pro Lys Glu Arg Lys
 565 570 575
 Lys Lys Gly Lys
 580

<210> 318
 <211> 446
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0316

<400> 318
 Leu Phe Thr Asp Phe Leu Ile Tyr Lys Pro Ser Ile Met Asn Lys Asn
 1 5 10 15
 Leu Val Ala Ile Phe Asp Tyr Met Glu Lys Glu Lys Gly Ile Gln Arg
 20 25 30
 Ser Thr Ile Ile Gly Ala Ile Glu Ser Ala Leu Lys Ile Ala Ala Lys
 35 40 45
 Lys Thr Leu Arg Asp Asp Ala Asn Ile Ser Val Asn Ile Asn Ser Arg
 50 55 60
 Thr Gly Asp Ile Glu Val Phe Cys Glu Lys Glu Ile Val Glu Ile Cys
 65 70 75 80
 Gln Asn Pro Ser Lys Glu Ile Pro Leu Asp Lys Ala Arg Glu Tyr Asp
 85 90 95
 Pro Asp Cys Gln Ile Gly Gln Tyr Met Asp Val Pro Phe Val Ser Asp
 100 105 110
 Asn Phe Gly Arg Ile Ala Ala His Ala Ala Arg Gln Ile Ile Gly Gln
 115 120 125
 Lys Leu Arg His Ala Glu Arg Asp Val Ile Tyr Glu Glu Tyr Arg His
 130 135 140

Arg Val Asn Glu Thr Leu Ser Gly Val Val Lys Arg Phe Ala Lys Gly
 145 150 155 160
 Ser Asn Leu Ile Ile Asp Leu Gly Lys Val Glu Ala Ile Leu Pro Thr
 165 170 175
 Arg Phe Tyr Pro Lys Thr Glu Lys His Lys Ile Gly Asp Lys Ile Tyr
 180 185 190
 Ala Leu Leu Tyr Glu Val Gln Glu Ser Glu Asn Gly Gly Ala Glu Val
 195 200 205
 Ile Leu Ser Arg Ser His Ala Glu Phe Val Lys Gln Leu Phe Ile Gln
 210 215 220
 Glu Val Pro Glu Leu Glu Glu Gly Ser Val Glu Ile Val Lys Ile Ala
 225 230 235 240
 Arg Glu Ala Gly Tyr Arg Thr Lys Leu Ala Val Arg Ser Ser Asp Pro
 245 250 255
 Lys Thr Asp Pro Val Gly Ala Phe Val Gly Met Arg Gly Ser Arg Val
 260 265 270
 Lys Asn Ile Ile Arg Glu Leu Asn Asp Glu Lys Ile Asp Ile Val Asn
 275 280 285
 Tyr Ser Pro Val Ser Thr Glu Leu Leu Gln Asn Leu Leu Tyr Pro Ile
 290 295 300
 Glu Ile Gln Lys Ile Ala Ile Leu Glu Asp Asp Lys Val Ile Ala Ile
 305 310 315 320
 Val Val Asn Asp Ala Asp Tyr Ala Thr Val Ile Gly Lys Arg Gly Ile
 325 330 335
 Asn Ala Arg Leu Ile Ser His Ile Leu Asp Tyr Glu Leu Glu Val Gln
 340 345 350
 Arg Met Ser Glu Tyr Asn Lys Leu Leu Glu Ile Gln Arg Leu Gln Leu
 355 360 365
 Ala Glu Phe Asp Ser Pro His Leu Asp Gln Pro Leu Glu Met Glu Gly
 370 375 380
 Ile Ser Lys Leu Val Ile Gln Asn Leu Glu His Ala Gly Tyr Asp Thr
 385 390 395 400
 Ile Arg Arg Val Leu Leu Ala Ser Ala Asn Asp Leu Ala Ser Val Pro
 405 410 415
 Gly Ile Ser Leu Glu Leu Ala Tyr Lys Ile Leu Glu Gln Val Ser Lys
 420 425 430
 Tyr Gly Glu Ser Lys Val Asp Glu Lys Pro Glu Ile Glu Asp
 435 440 445

<210> 319

<211> 902

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0317

<400> 319

Ser Leu Leu Ile Arg Ser Leu Ser Lys Ser Ala Asn Met Glu Lys Val
 1 5 10 15
 Lys Leu Thr Lys Asn Leu Lys Leu Lys Ile Lys Asn Ala Gln Leu Thr
 20 25 30
 Lys Ala Ala Gly Leu Asp Lys Leu Lys Gln Lys Leu Ala Gln Ala Gly
 35 40 45
 Ser Ser Glu Ala Lys Ser Ser Ser Glu Lys Pro Ser Ala Lys Glu Lys
 50 55 60
 Ser Val Lys Val Ala Leu Ala Ala Thr Ser Thr Pro Thr Ala Ser Ala
 65 70 75 80
 Glu Gln Ala Ser Pro Glu Ser Thr Ser Arg Arg Ile Arg Ala Lys Asn
 85 90 95

625

Ala Asp Pro Ser Ala Arg Ala Arg Gly Leu Val Ile Glu Ser Glu Leu
 580 585 590
 His Lys Gly Leu Gly Pro Val Ala Thr Val Leu Ile Gln Asn Gly Ser
 595 600 605
 Leu Lys Leu Gly Glu Ala Leu Val Phe Asn Asp Cys Tyr Gly Lys Val
 610 615 620
 Lys Thr Met His Asn Glu His Asn Glu Leu Met Lys Glu Ala Gly Pro
 625 630 635 640
 Ser Ile Pro Val Leu Ile Thr Gly Leu Ser Asp Ile Pro Lys Ala Gly
 645 650 655
 Asp Pro Phe Phe Val Val Lys Asn Glu Lys Thr Ala Arg Asp Ile Ile
 660 665 670
 Glu Ala Arg Ser Ala Gly Gln Gln Arg Phe Ala Leu Gln Gln Lys Lys
 675 680 685
 Arg Pro Asn Phe Asp Ser Met Leu Gln Asn Lys Lys Thr Leu Lys Leu
 690 695 700
 Met Ile Lys Ala Asp Val Gln Gly Ser Ile Glu Ala Leu Val Ser Ser
 705 710 715 720
 Ile Ser Lys Ile Lys Ser Glu Lys Val Asp Val Glu Ile Leu Thr Asn
 725 730 735
 Ser Val Gly Glu Ile Ser Glu Ser Asp Ile Arg Leu Ala Ala Ala Ser
 740 745 750
 Lys Ala Val Leu Ile Gly Phe His Thr Gly Ile Glu Ser His Ala Glu
 755 760 765
 Pro Leu Ile Lys Ser Leu Gly Val Arg Val Glu Leu Phe Thr Val Ile
 770 775 780
 Tyr His Ala Ile Asp Ala Ile Lys Glu Ile Met Thr Ser Leu Leu Asp
 785 790 795 800
 Pro Ile Ala Glu Glu Lys Asp Glu Gly Ser Ala Glu Ile Lys Glu Ile
 805 810 815
 Phe Arg Ser Ser Gln Val Gly Ser Ile Tyr Gly Cys Ile Val Thr Glu
 820 825 830
 Gly Ile Met Thr Arg Asn His Lys Val Arg Val Leu Arg Asn Lys Glu
 835 840 845
 Ile Leu Trp Lys Gly Thr Leu Ser Ser Leu Lys Arg Val Lys Glu Asp
 850 855 860
 Val Lys Glu Val Arg Lys Gly Leu Glu Cys Gly Ile Leu Leu Glu Gly
 865 870 875 880
 Tyr Gln Gln Ala Gln Ile Gly Asp Val Leu Gln Cys Tyr Glu Val Ile
 885 890 895
 Tyr His Pro Gln Lys Leu
 900

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 <211> 141
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0318

<400> 320
 Val Met Ser Tyr Asn Val Met Lys Leu Ser Ile Ile His Lys Asn Tyr
 1 5 10 15
 Asn Leu Lys Tyr Cys Met Thr Glu Asn Arg Arg Ile Lys Arg Val Asn
 20 25 30
 Ala Leu Leu Gln Glu Ala Ile Ala Lys Val Ile Leu Lys Asp Val Lys
 35 40 45
 His Pro Lys Ile Ser Asn Leu Trp Ile Thr Val Thr Arg Val Ser Leu
 50 55 60

Ser Lys Asp Leu His Ser Ala Arg Val Tyr Val Ser Val Met Pro His
65 70 75 80
Glu Asn Thr Lys Glu Ala Leu Glu Ala Leu Lys Val Ser Ala Gly
85 90 95
Phe Ile Ala His Arg Ala Ser Lys Asn Val Val Leu Lys Tyr Phe Pro
100 105 110
Glu Leu His Phe Tyr Leu Asp Asp Ile Phe Ser Pro Gln Asp Tyr Ile
115 120 125
Glu Asn Leu Leu Trp Gln Ile Gln Glu Lys Glu Lys Ser
130 135 140

<210> 321
<211> 249
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0319

<400> 321
Thr Ile Phe Phe Gly Asn Leu Asn Thr Ile Lys Asp Met Thr Met Asp
1 5 10 15
Leu Ala Val Glu Leu Lys Glu Gly Ile Leu Leu Val Asp Lys Pro Gln
20 25 30
Gly Arg Thr Ser Phe Ser Leu Ile Arg Ala Leu Thr Lys Leu Ile Gly
35 40 45
Val Lys Lys Ile Gly His Ala Gly Thr Leu Asp Pro Phe Ala Thr Gly
50 55 60
Val Met Val Met Leu Ile Gly Arg Lys Phe Thr Arg Leu Ser Asp Ile
65 70 75 80
Leu Leu Phe Glu Asp Lys Glu Tyr Glu Ala Ile Ala His Leu Gly Thr
85 90 95
Thr Thr Asp Ser Tyr Asp Cys Asp Gly Lys Val Val Gly Arg Ser Lys
100 105 110
Lys Ile Pro Ser Leu Glu Glu Val Leu Ser Ala Ala Glu Tyr Phe Gln
115 120 125
Gly Glu Ile Gln Gln Leu Pro Pro Met Phe Ser Ala Lys Lys Val Gln
130 135 140
Gly Lys Lys Leu Tyr Glu Tyr Ala Arg Lys Gly Leu Ser Ile Glu Arg
145 150 155 160
His His Ser Thr Val Gln Val His Leu Gln Ile Thr Lys Tyr Glu Tyr
165 170 175
Pro Leu Leu His Phe Val Val Ser Cys Ser Lys Gly Thr Tyr Ile Arg
180 185 190
Ser Ile Ala His Glu Leu Gly Thr Met Leu Gly Cys Gly Ala Tyr Leu
195 200 205
Glu Gln Leu Arg Arg Leu Arg Ser Gly Arg Phe Ser Ile Asp Glu Cys
210 215 220
Ile Asp Gly Asn Leu Leu Asp His Pro Asp Phe Asp Ile Ser Pro Tyr
225 230 235 240
Leu Arg Asp Ala His Gly Asn Ser Leu
245

<210> 322
<211> 320
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0320

<400> 322

Thr	Thr	Pro	Ile	Ser	Ile	Phe	Leu	Pro	Thr	Tyr	Glu	Met	Pro	Met	Glu
1				5					10					15	
Ile	Ala	Tyr	Ser	Leu	Thr	Ser	Ser	Phe	Ser	Val	Asp	Ser	Val	Thr	Val
			20					25					30		
Gly	Phe	Phe	Asp	Gly	Cys	His	Leu	Gly	His	Ser	Asn	Leu	Leu	Ser	Ile
		35					40					45			
Leu	Thr	Ser	Tyr	Ser	Gly	Ser	Ser	Gly	Val	Ile	Thr	Phe	Asp	Ser	His
		50				55					60				
Pro	Gln	Thr	Val	Leu	Ser	Leu	Asn	His	Thr	Lys	Leu	Ile	Asn	Thr	Lys
65					70					75					80
Glu	Glu	Arg	Leu	Gln	Leu	Leu	Gln	Thr	Phe	Pro	Ile	Asp	Trp	Leu	Gly
			85						90					95	
Val	Leu	Thr	Phe	Asp	Leu	Asn	Phe	Ala	Asn	Gln	Ser	Ala	Glu	Glu	Phe
			100					105					110		
Leu	Thr	Leu	Leu	His	Arg	Asn	Leu	Lys	Cys	Lys	Arg	Leu	Ile	Leu	Gly
		115				120						125			
Tyr	Asp	Ser	Cys	Ile	Gly	Lys	Glu	Gln	Gln	Ser	Asn	Thr	Glu	Ala	Leu
	130					135					140				
Asp	Thr	Ile	Gly	Lys	Pro	Leu	Gly	Ile	Glu	Val	Ile	Lys	Ile	Pro	Pro
145					150					155					160
Tyr	Arg	Met	Asp	Asn	Ile	Val	Val	Ser	Ser	Lys	Ala	Ile	Arg	Gln	Phe
			165						170					175	
Leu	Ser	Ala	Gly	Asn	Leu	Glu	Cys	Ala	His	Arg	Phe	Leu	Gly	His	Pro
		180						185					190		
Tyr	Ala	Ile	Ser	Gly	Lys	Ile	Thr	Glu	Gly	Ser	Gly	Ile	Gly	Gly	Ser
		195					200					205			
Leu	Gly	Phe	Ala	Thr	Ile	Asn	Leu	Pro	Arg	Glu	Glu	Ser	Leu	Ile	Pro
	210					215					220				
Leu	Gly	Val	Tyr	Ala	Cys	Glu	Ile	Arg	Tyr	Asp	Ser	Thr	Thr	Cys	Gln
225					230					235					240
Gly	Val	Met	Asn	Leu	Gly	Thr	Ala	Pro	Thr	Phe	Gly	Arg	Glu	Ser	Leu
			245						250					255	
Tyr	Ala	Glu	Ala	His	Ile	Phe	Ser	Phe	Ala	Glu	Asn	Leu	Tyr	Gly	Lys
			260					265					270		
Glu	Val	Ser	Ile	Ile	Pro	Arg	Lys	Phe	Leu	Arg	Glu	Glu	Lys	Lys	Phe
		275					280					285			
Gln	Ser	Lys	Glu	Thr	Leu	Ile	Arg	Ala	Ile	Glu	Lys	Asp	Ile	Leu	Asp
	290					295					300				
Ala	Gln	Asp	Trp	Phe	Ala	Lys	Gly	Ser	Phe	Asn	Tyr	Glu	Gly	Thr	Ala
305					310					315					320

<210> 323

<211> 378

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0321

<400> 323

Tyr	Ser	Lys	Lys	His	Val	Ile	Ile	Phe	Ile	Phe	Arg	Cys	Leu	Met	Ser
1				5					10					15	
His	Thr	Glu	Cys	Gly	Ile	Val	Gly	Leu	Pro	Asn	Val	Gly	Lys	Ser	Gly
			20					25					30		
Leu	Phe	Asn	Ala	Leu	Thr	Gly	Ala	Gln	Val	Ala	Ser	Cys	Asn	Tyr	Pro
		35					40					45			
Phe	Cys	Thr	Ile	Asp	Pro	Asn	Val	Gly	Ile	Val	Pro	Val	Ile	Asp	Glu
	50					55					60				
Arg	Leu	Glu	Ala	Leu	Ala	Lys	Ile	Ser	Asn	Ser	Gln	Lys	Ile	Ile	Tyr
65						70				75					80

Ser	Asn	Leu	Gly	Asn	Ser	Met	Gly	Glu	Lys	Thr	Glu	Lys	Ala	Thr	Pro
1				5				10						15	
Lys	Arg	Leu	Arg	Asp	Ala	Arg	Lys	Lys	Gly	Gln	Val	Ala	Lys	Ser	Gln
		20					25					30			
Asp	Phe	Pro	Ser	Ala	Val	Thr	Phe	Ile	Val	Ser	Met	Phe	Thr	Ala	Phe
	35					40					45				
Ser	Leu	Ser	Thr	Phe	Phe	Phe	Lys	His	Leu	Gly	Gly	Phe	Leu	Val	Ser
	50				55					60					
Met	Leu	Ser	Gln	Ala	Pro	Thr	Arg	His	Asp	Pro	Val	Ile	Thr	Leu	Phe
65				70					75					80	
Tyr	Leu	Lys	Asn	Cys	Leu	Met	Leu	Ile	Leu	Thr	Ala	Ser	Leu	Pro	Leu
			85					90					95		

Leu Gly Ala Val Ala Val Val Gly Val Ile Val Gly Phe Leu Ile Val
 100 105 110
 Gly Pro Thr Phe Ser Thr Glu Val Phe Lys Pro Asp Ile Lys Lys Phe
 115 120 125
 Asn Pro Ile Glu Asn Ile Lys Gln Lys Phe Lys Ile Lys Thr Leu Ile
 130 135 140
 Glu Leu Ile Lys Ser Ile Leu Lys Ile Phe Gly Ala Ala Leu Ile Leu
 145 150 155 160
 Tyr Ile Thr Leu Lys Ser Lys Val Ser Leu Ile Ile Glu Thr Ala Gly
 165 170 175
 Val Ser Pro Ile Ile Thr Ala Gln Ile Phe Lys Glu Ile Phe Tyr Lys
 180 185 190
 Ala Val Thr Ser Ile Gly Ile Phe Phe Leu Ile Val Ala Ile Leu Asp
 195 200 205
 Leu Val Tyr Gln Arg His Asn Phe Ala Lys Glu Leu Lys Met Glu Lys
 210 215 220
 Phe Glu Val Lys Gln Glu Phe Lys Asp Thr Glu Gly Asn Pro Glu Ile
 225 230 235 240
 Lys Gly Arg Arg Arg Gln Ile Ala Gln Glu Ile Ala Tyr Glu Asp Ser
 245 250 255
 Ser Ser Gln Val Lys His Ala Ser Thr Val Val Ser Asn Pro Lys Asp
 260 265 270
 Ile Ala Val Ala Ile Gly Tyr Met Pro Glu Lys Tyr Lys Ala Pro Trp
 275 280 285
 Ile Ile Ala Met Gly Ile Asn Leu Arg Ala Lys Arg Ile Leu Asp Glu
 290 295 300
 Ala Glu Lys Tyr Gly Ile Pro Ile Met Arg Asn Val Pro Leu Ala His
 305 310 315 320
 Gln Leu Leu Asp Glu Gly Lys Glu Leu Lys Phe Ile Pro Glu Ser Thr
 325 330 335
 Tyr Glu Ala Ile Gly Glu Ile Leu Leu Tyr Ile Thr Ser Leu Asn Ala
 340 345 350
 Gln Asn Pro Asn Asn Lys Asn Thr Asn Gln Pro Asp His Leu
 355 360 365

<210> 325
 <211> 713
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0323

<400> 325
 Ser Phe Ile Met Asn Lys Leu Leu Asn Phe Val Ser Arg Thr Leu Gly
 1 5 10 15
 Gly Asp Thr Ala Leu Asn Met Ile Asn Lys Ser Ser Asp Leu Ile Leu
 20 25 30
 Ala Leu Trp Met Met Gly Val Val Leu Met Ile Ile Ile Pro Leu Pro
 35 40 45
 Pro Pro Ile Val Asp Leu Met Ile Thr Ile Asn Leu Ser Ile Ser Val
 50 55 60
 Phe Leu Leu Met Val Ala Leu Tyr Ile Pro Ser Ala Leu Gln Leu Ser
 65 70 75 80
 Val Phe Pro Ser Leu Leu Ile Thr Thr Met Phe Arg Leu Gly Ile
 85 90 95
 Asn Ile Ser Ser Arg Gln Ile Leu Leu Lys Ala Tyr Ala Gly His
 100 105 110
 Val Ile Gln Ala Phe Gly Asp Phe Val Val Gly Gly Asn Tyr Val Val
 115 120 125

Gly	Phe	Ile	Ile	Phe	Leu	Ile	Ile	Thr	Ile	Ile	Gln	Phe	Ile	Val	Val
130						135					140				
Thr	Lys	Gly	Ala	Glu	Arg	Val	Ala	Glu	Val	Ala	Ala	Arg	Phe	Arg	Leu
145					150					155					160
Asp	Ala	Met	Pro	Gly	Lys	Gln	Met	Ala	Ile	Asp	Ala	Asp	Leu	Arg	Ala
				165					170					175	
Gly	Met	Ile	Asp	Ala	Thr	Gln	Ala	Arg	Asp	Lys	Arg	Ala	Gln	Ile	Gln
			180					185					190		
Lys	Glu	Ser	Glu	Leu	Tyr	Gly	Ala	Met	Asp	Gly	Ala	Met	Lys	Phe	Ile
	195						200					205			
Lys	Gly	Asp	Val	Ile	Ala	Gly	Ile	Val	Ile	Ser	Leu	Ile	Asn	Ile	Val
	210					215					220				
Gly	Gly	Leu	Thr	Ile	Gly	Val	Ala	Met	His	Gly	Met	Asp	Leu	Ala	Gln
225					230					235					240
Ala	Ala	His	Val	Tyr	Thr	Leu	Leu	Ser	Ile	Gly	Asp	Gly	Leu	Val	Ser
				245					250					255	
Gln	Ile	Pro	Ser	Leu	Leu	Ile	Ala	Leu	Thr	Ala	Gly	Ile	Val	Thr	Thr
			260					265					270		
Arg	Val	Ser	Ser	Asp	Lys	Asn	Thr	Asn	Leu	Gly	Lys	Glu	Ile	Ser	Thr
		275					280					285			
Gln	Leu	Val	Lys	Glu	Pro	Arg	Ala	Leu	Leu	Leu	Ala	Gly	Ala	Ala	Thr
	290					295					300				
Leu	Gly	Val	Gly	Phe	Phe	Lys	Gly	Phe	Pro	Leu	Trp	Ser	Phe	Ser	Ile
305					310					315					320
Leu	Ala	Leu	Ile	Phe	Val	Ala	Leu	Gly	Ile	Leu	Leu	Leu	Thr	Lys	Lys
				325					330					335	
Ser	Ala	Ala	Gly	Lys	Lys	Gly	Gly	Gly	Ser	Gly	Ala	Ser	Thr	Thr	Val
			340				345						350		
Gly	Ala	Ala	Gly	Asp	Gly	Ala	Ala	Thr	Val	Gly	Asp	Asn	Pro	Asp	Asp
	355					360					365				
Tyr	Ser	Leu	Thr	Leu	Pro	Val	Ile	Leu	Glu	Leu	Gly	Lys	Asp	Leu	Ser
	370				375						380				
Lys	Leu	Ile	Gln	His	Lys	Thr	Lys	Ser	Gly	Gln	Ser	Phe	Val	Asp	Asp
385					390					395					400
Met	Ile	Pro	Lys	Met	Arg	Gln	Ala	Leu	Tyr	Gln	Asp	Ile	Gly	Ile	Arg
				405					410				415		
Tyr	Pro	Gly	Ile	His	Val	Arg	Thr	Asp	Ser	Pro	Ser	Leu	Glu	Gly	Tyr
			420				425						430		
Asp	Tyr	Met	Ile	Leu	Leu	Asn	Glu	Val	Pro	Tyr	Val	Arg	Gly	Lys	Ile
	435					440						445			
Pro	Pro	His	His	Val	Leu	Thr	Asn	Glu	Val	Glu	Asp	Asn	Leu	Ser	Arg
	450					455					460				
Tyr	Asn	Leu	Pro	Phe	Ile	Thr	Tyr	Lys	Asn	Ala	Ala	Gly	Leu	Pro	Ser
465					470					475					480
Ala	Trp	Val	Ser	Glu	Asp	Ala	Lys	Ala	Ile	Leu	Glu	Lys	Ala	Ala	Ile
				485					490					495	
Lys	Tyr	Trp	Thr	Pro	Leu	Glu	Val	Ile	Ile	Leu	His	Leu	Ser	Tyr	Phe
			500					505					510		
Phe	His	Lys	Ser	Ser	Gln	Glu	Phe	Leu	Gly	Ile	Gln	Glu	Val	Arg	Ser
	515						520					525			
Met	Ile	Glu	Phe	Met	Glu	Arg	Ser	Phe	Pro	Asp	Leu	Val	Lys	Glu	Val
	530					535					540				
Thr	Arg	Leu	Ile	Pro	Leu	Gln	Lys	Leu	Thr	Glu	Ile	Phe	Lys	Arg	Leu
545					550					555					560
Val	Gln	Glu	Gln	Ile	Ser	Ile	Lys	Asp	Leu	Arg	Thr	Ile	Leu	Glu	Ser
				565					570					575	
Leu	Ser	Glu	Trp	Ala	Gln	Thr	Glu	Lys	Asp	Thr	Val	Leu	Leu	Thr	Glu
			580					585					590		
Tyr	Val	Arg	Ser	Ser	Leu	Lys	Leu	Tyr	Ile	Ser	Phe	Lys	Phe	Ser	Gln
		595					600					605			

Gly Gln Ser Ala Ile Ser Val Tyr Leu Leu Asp Pro Glu Ile Glu Glu
 610 615 620
 Met Ile Arg Gly Ala Ile Lys Gln Thr Ser Ala Gly Ser Tyr Leu Ala
 625 630 635 640
 Leu Asp Pro Asp Ser Val Asn Leu Ile Leu Lys Ser Met Arg Asn Thr
 645 650 655
 Ile Thr Pro Thr Pro Ala Gly Gly Gln Pro Pro Val Leu Leu Thr Ala
 660 665 670
 Ile Asp Val Arg Arg Tyr Val Arg Lys Leu Ile Glu Thr Glu Phe Pro
 675 680 685
 Asp Ile Ala Val Ile Ser Tyr Gln Glu Ile Leu Pro Glu Ile Arg Ile
 690 695 700
 Gln Pro Leu Gly Arg Ile Gln Ile Phe
 705 710

<210> 326
 <211> 407
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0324

<400> 326
 Tyr Val Val Ala His Arg Arg His Met Ala Ala Ser Gly Gly Thr Gly
 1 5 10 15
 Gly Leu Gly Gly Thr Gln Gly Val Asn Leu Ala Ala Val Glu Ala Ala
 20 25 30
 Ala Ala Lys Ala Asp Ala Ala Glu Val Val Ala Ser Gln Glu Gly Ser
 35 40 45
 Glu Met Asn Met Ile Gln Gln Ser Gln Asp Leu Thr Asn Pro Ala Ala
 50 55 60
 Ala Thr Arg Thr Lys Lys Lys Glu Glu Lys Phe Gln Thr Leu Glu Ser
 65 70 75 80
 Arg Lys Lys Gly Glu Ala Gly Lys Ala Glu Lys Lys Ser Glu Ser Thr
 85 90 95
 Glu Glu Lys Pro Asp Thr Asp Leu Ala Asp Lys Tyr Ala Ser Gly Asn
 100 105 110
 Ser Glu Ile Ser Gly Gln Glu Leu Arg Gly Leu Arg Asp Ala Ile Gly
 115 120 125
 Asp Asp Ala Ser Pro Glu Asp Ile Leu Ala Leu Val Gln Glu Lys Ile
 130 135 140
 Lys Asp Pro Ala Leu Gln Ser Thr Ala Leu Asp Tyr Leu Val Gln Thr
 145 150 155 160
 Thr Pro Pro Ser Gln Gly Lys Leu Lys Glu Ala Leu Ile Gln Ala Arg
 165 170 175
 Asn Thr His Thr Glu Gln Phe Gly Arg Thr Ala Ile Gly Ala Lys Asn
 180 185 190
 Ile Leu Phe Ala Ser Gln Glu Tyr Ala Asp Gln Leu Asn Val Ser Pro
 195 200 205
 Ser Gly Leu Arg Ser Leu Tyr Leu Glu Val Thr Gly Asp Thr His Thr
 210 215 220
 Cys Asp Gln Leu Leu Ser Met Leu Gln Asp Arg Tyr Thr Tyr Gln Asp
 225 230 235 240
 Met Ala Ile Val Ser Ser Phe Leu Met Lys Gly Met Ala Thr Glu Leu
 245 250 255
 Lys Arg Gln Gly Pro Tyr Val Pro Ser Ala Gln Leu Gln Val Leu Met
 260 265 270
 Thr Glu Thr Arg Asn Leu Gln Ala Val Leu Thr Ser Tyr Asp Tyr Phe
 275 280 285

Glu Ser Arg Val Pro Ile Leu Leu Asp Ser Leu Lys Ala Glu Gly Ile
 290 295 300
 Gln Thr Pro Ser Asp Leu Asn Phe Val Lys Val Ala Glu Ser Tyr His
 305 310 315 320
 Lys Ile Ile Asn Asp Lys Phe Pro Thr Ala Ser Lys Val Glu Arg Glu
 325 330 335
 Val Arg Asn Leu Ile Gly Asp Asp Val Asp Ser Val Thr Gly Val Leu
 340 345 350
 Asn Leu Phe Phe Ser Ala Leu Arg Gln Thr Ser Ser Arg Leu Phe Ser
 355 360 365
 Ser Ala Asp Lys Arg Gln Gln Leu Gly Ala Met Ile Ala Asn Ala Leu
 370 375 380
 Asp Ala Val Asn Ile Asn Asn Glu Asp Tyr Pro Lys Ala Ser Asp Phe
 385 390 395 400
 Pro Lys Pro Tyr Pro Trp Ser
 405

<210> 327
 <211> 151
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0325

<400> 327
 Lys Arg Ile Ala Met Gln Asn Gln Tyr Glu Gln Leu Leu Glu Ser Leu
 1 5 10 15
 Ala Pro Leu Leu Asn Thr Thr Leu Ala Pro Asp Lys Asn Asn Ser Cys
 20 25 30
 Leu Ile Arg Phe Ser Asp Thr His Val Pro Val Gln Ile Glu Glu Asp
 35 40 45
 Gly Asn Ser Gly Asp Leu Ala Val Ser Thr Leu Leu Gly Thr Leu Pro
 50 55 60
 Glu Asn Val Phe Arg Glu Arg Ile Phe Lys Ala Ala Leu Ser Val Asn
 65 70 75 80
 Gly Ser Phe Gln Ser Ser Ile Lys Gly Ile Leu Gly Tyr Gly Glu Val
 85 90 95
 Thr Gln Gln Leu Tyr Leu Ser Asp Ile Leu Ser Met Asn Tyr Leu Asn
 100 105 110
 Gly Glu Lys Leu Phe Glu Tyr Leu Lys Leu Phe Ser Leu His Ala Lys
 115 120 125
 Ile Trp Met Glu Ser Leu Arg Thr Gly Asn Leu Pro Asp Leu His Val
 130 135 140
 Leu Gly Ile Tyr Tyr Val Ala
 145 150

<210> 328
 <211> 536
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0326

<400> 328
 Pro Ser Cys Phe Gly Asn Leu Leu Arg Arg Val Asn Val Leu Lys Tyr
 1 5 10 15
 Thr Lys His Ser Pro Ser Ala His Ala Trp Lys Leu Ile Gly Thr Ser
 20 25 30

Pro Lys His Gly Ile Tyr Leu Pro Leu Phe Ser Ile His Thr Lys Asn
 35 40 45
 Ser Cys Gly Ile Gly Glu Phe Leu Asp Leu Ile Pro Leu Ile Ser Trp
 50 55 60
 Cys Gln Lys Gln Gly Phe Ser Val Ile Gln Leu Leu Pro Leu Asn Asp
 65 70 75 80
 Thr Gly Glu Asp Thr Ser Pro Tyr Asn Ser Ile Ser Ser Val Ala Leu
 85 90 95
 Asn Pro Leu Phe Leu Ser Leu Ser Ser Leu Pro Asn Ile Asp Thr Ile
 100 105 110
 Pro Glu Val Ala Lys Lys Leu Gln Asp Met His Glu Leu Cys Ser Thr
 115 120 125
 Pro Ser Val Ser Tyr Thr Gln Val Lys Glu Lys Lys Trp Ala Phe Leu
 130 135 140
 Arg Glu Tyr Tyr Gln Lys Cys Cys Lys Ser Ser Leu Glu Gly Asn Ser
 145 150 155 160
 Asn Phe Ser Glu Phe Leu Glu Ser Glu Arg Tyr Trp Leu Tyr Pro Tyr
 165 170 175
 Gly Thr Phe Arg Ala Ile Lys His His Met His Gly Glu Pro Ile Asn
 180 185 190
 Asn Trp Pro Lys Ser Leu Thr Asp Gln Glu Asn Phe Pro Asp Leu Thr
 195 200 205
 Lys Lys Phe His Asp Glu Val Leu Phe Phe Ser Tyr Leu Gln Phe Leu
 210 215 220
 Cys Tyr Gln Gln Leu Cys Glu Val Lys Ala Tyr Ala Asp Gln His His
 225 230 235 240
 Val Leu Leu Lys Gly Asp Leu Pro Ile Leu Ile Ser Lys Asp Ser Cys
 245 250 255
 Asp Val Trp Tyr Phe Arg Asp Tyr Phe Ser Ser Ser Arg Ser Val Gly
 260 265 270
 Ala Pro Pro Asp Leu Tyr Asn Ser Glu Gly Gln Asn Trp His Leu Pro
 275 280 285
 Ile Tyr Asn Phe Ser Gln Leu Ala Lys Asp Asp Tyr Ile Trp Trp Lys
 290 295 300
 Glu Arg Leu Arg Tyr Ala Gln Asn Phe Tyr Ser Val Tyr Arg Leu Asp
 305 310 315 320
 His Ile Ile Gly Phe Phe Arg Leu Trp Ile Trp Asp Ser Ser Gly Arg
 325 330 335
 Gly Arg Phe Ile Pro Asp Asn Pro Lys Asp Tyr Ile Lys Gln Gly Thr
 340 345 350
 Glu Ile Leu Ser Thr Met Leu Gly Ala Ser Ser Met Leu Pro Ile Gly
 355 360 365
 Glu Asp Leu Gly Ile Ile Pro Gln Asp Val Lys Thr Thr Leu Thr His
 370 375 380
 Leu Gly Ile Cys Gly Thr Arg Ile Pro Arg Trp Glu Arg Asn Trp Glu
 385 390 395 400
 Ser Asp Ser Ala Phe Ile Pro Leu Lys Asp Tyr Asn Pro Leu Ser Val
 405 410 415
 Thr Thr Leu Ser Thr His Asp Ser Asp Thr Phe Ala Gln Trp Trp Leu
 420 425 430
 Asn Ser Pro Lys Glu Ala Lys Gln Phe Ala Lys Phe Leu His Leu Pro
 435 440 445
 Phe Gln Lys Thr Leu Thr Thr Glu Thr Gln Ile Asp Ile Leu Lys Leu
 450 455 460
 Ser His Glu Ser Ala Ser Ile Phe His Ile Asn Leu Phe Asn Asp Tyr
 465 470 475 480
 Leu Ala Leu Cys Pro Asp Leu Val Ser Lys Asn Leu Gln Arg Glu Arg
 485 490 495
 Ile Asn Thr Pro Gly Thr Ile Ser Lys Lys Asn Trp Ser Tyr Arg Val
 500 505 510

Arg Pro Ser Leu Glu Glu Leu Ala Ile His Lys Lys Phe Asn Gly Tyr
515 520 525
Ile Glu Lys Ile Leu Thr Gly Leu
530 535

<210> 329
<211> 95
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0327

<400> 329
Arg Ile His Arg Lys Asn Met Ser Arg Lys Cys Pro Leu Thr Gly Lys
1 5 10 15
Arg Pro Arg Arg Gly Tyr Ser Tyr Thr Leu Arg Gly Ile Ala Lys Lys
20 25 30
Lys Lys Gly Ile Gly Leu Lys Val Thr Gly Lys Thr Lys Arg Arg Phe
35 40 45
Phe Pro Asn Met Leu Thr Lys Arg Leu Trp Ser Thr Glu Glu Asn Arg
50 55 60
Phe Leu Lys Leu Lys Ile Ser Ala Ser Ala Leu Arg His Ile Asp Lys
65 70 75 80
Leu Gly Leu Glu Lys Val Leu Glu Arg Ala Lys Ser Lys Asn Phe
85 90 95

<210> 330
<211> 591
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0328

<400> 330
Leu Lys Tyr Arg Glu Ile Phe Met Ser Phe Leu Arg Arg His Ile Ser
1 5 10 15
Leu Phe Arg Ser Gln Lys Gln Leu Ile Asp Val Phe Ala Pro Val Ser
20 25 30
Pro Asn Leu Glu Leu Ala Glu Ile His Arg Arg Val Ile Glu Asp Gln
35 40 45
Gly Pro Ala Leu Leu Phe His Asn Val Ile Gly Ser Ser Phe Pro Val
50 55 60
Leu Thr Asn Leu Phe Gly Thr Lys His Arg Val Asp Gln Leu Phe Ser
65 70 75 80
Gln Ala Pro Asp Asn Leu Ile Ala Arg Val Ala His Leu Ile Ser Ser
85 90 95
Thr Pro Lys Leu Ser Ser Leu Trp Lys Ser Arg Asp Leu Leu Lys Arg
100 105 110
Ile Ser Ser Leu Gly Leu Lys Lys Ala Arg Phe Arg Arg Phe Pro Phe
115 120 125
Val Ser Met Ser Ser Val Asn Leu Asp His Leu Pro Leu Leu Thr Ser
130 135 140
Trp Pro Glu Asp Gly Gly Ala Phe Leu Thr Leu Pro Leu Val Tyr Thr
145 150 155 160
Glu Ser Pro Thr Leu Thr Thr Pro Asn Leu Gly Met Tyr Arg Val Gln
165 170 175
Arg Phe Asn Gln Asn Thr Met Gly Leu His Phe Gln Ile Gln Lys Gly
180 185 190

<400> 331

Lys	Met	Asn	Lys	Arg	Gln	Lys	Asp	Lys	Leu	Lys	Ile	Cys	Val	Ile	Ile
1			5						10					15	
Ser	Thr	Leu	Ile	Leu	Val	Gly	Ile	Phe	Ala	Arg	Ala	Pro	Arg	Gly	Asp
		20						25					30		
Thr	Phe	Lys	Thr	Phe	Leu	Lys	Ser	Glu	Glu	Ala	Ile	Ile	Tyr	Ser	Asn
		35					40						45		
Gln	Cys	Asn	Glu	Asp	Met	Arg	Lys	Ile	Leu	Cys	Asp	Ala	Ile	Glu	His
	50					55					60				
Ala	Asp	Glu	Glu	Ile	Phe	Leu	Arg	Ile	Tyr	Asn	Leu	Ser	Glu	Pro	Lys
65					70					75					80
Ile	Gln	Gln	Ser	Leu	Thr	Arg	Gln	Ala	Gln	Ala	Lys	Asn	Lys	Val	Thr
			85						90					95	
Ile	Tyr	Tyr	Gln	Lys	Phe	Lys	Ile	Pro	Gln	Ile	Leu	Lys	Gln	Ala	Ser
			100					105						110	
Asn	Val	Thr	Leu	Val	Glu	Gln	Pro	Pro	Ala	Gly	Arg	Lys	Leu	Met	His
		115					120					125			
Gln	Lys	Ala	Leu	Ser	Ile	Asp	Lys	Lys	Asp	Ala	Trp	Leu	Gly	Ser	Ala
	130					135					140				
Asn	Tyr	Thr	Asn	Leu	Ser	Leu	Arg	Leu	Asp	Asn	Asn	Leu	Ile	Leu	Gly
145				150					155					160	
Met	His	Ser	Ser	Glu	Leu	Cys	Asp	Leu	Ile	Ile	Thr	Asn	Thr	Ser	Gly
			165					170						175	
Asp	Phe	Ser	Ile	Lys	Asp	Gln	Thr	Gly	Lys	Tyr	Phe	Val	Leu	Pro	Gln
			180					185					190		
Asp	Arg	Lys	Ile	Ala	Ile	Gln	Ala	Val	Leu	Glu	Lys	Ile	Gln	Thr	Ala
	195						200					205			
Gln	Lys	Thr	Ile	Gln	Val	Ala	Met	Phe	Ala	Leu	Thr	His	Ser	Glu	Ile
	210					215					220				
Ile	Gln	Ala	Leu	His	Gln	Ala	Lys	Gln	Arg	Gly	Ile	His	Val	Asp	Ile
225					230					235				240	
Ile	Ile	Asp	Arg	Ser	His	Ser	Lys	Leu	Thr	Phe	Lys	Gln	Leu	Arg	Gln
			245					250						255	
Leu	Asn	Ile	Asn	Lys	Asp	Phe	Val	Ser	Ile	Asn	Thr	Ala	Pro	Cys	Thr
			260					265					270		
Leu	His	His	Lys	Phe	Ala	Val	Ile	Asp	Asn	Lys	Thr	Leu	Leu	Ala	Gly
	275					280					285				
Ser	Ile	Asn	Trp	Ser	Lys	Gly	Arg	Phe	Ser	Leu	Asn	Asp	Glu	Ser	Leu
	290					295					300				
Ile	Ile	Leu	Glu	Asn	Leu	Thr	Lys	Gln	Gln	Asn	Gln	Lys	Leu	Arg	Met
305					310					315				320	
Ile	Trp	Lys	Asp	Leu	Ala	Lys	His	Ser	Glu	His	Pro	Thr	Val	Asp	Asp
			325						330					335	
Glu	Glu	Lys	Glu	Ile	Ile	Glu	Lys	Ser	Leu	Pro	Val	Glu	Glu	Gln	Glu
			340					345					350		

Ala Ala

<210> 332

<211> 243

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0330

<400> 332

Phe	Ile	Ser	Ile	Glu	Met	Leu	Leu	Leu	Ser	Arg	Gln	Leu	Phe	Ser	Val
1			5						10					15	
Leu	Pro	Ser	Arg	Phe	Gln	Asp	Leu	His	Val	Tyr	Arg	Phe	Lys	Glu	Ser
			20					25					30		

Leu Lys Leu Leu Gln Phe Met Thr Met Val Gly Gly Glu Ile Val Val
 35 40 45
 Val Leu Ala Glu Ile Lys Glu Asp Leu Arg Ala Arg Lys Leu Pro
 50 55 60
 Val Arg Lys Arg Arg Glu Lys Asn Tyr Leu Arg Ile Phe Arg Val Leu
 65 70 75 80
 Ser Arg Phe Asp Val Met Arg Ile Ile Arg Phe Asp Pro Tyr Gly Ala
 85 90 95
 Leu Ser Ala Gln Ser Ile Ala Lys Asp Ser Arg Gln Asn Ser Pro Leu
 100 105 110
 Val Glu Lys Ile Ser Glu Glu Ile Ala Thr Asn Glu Ala Ile Arg Leu
 115 120 125
 Ala Leu Leu Ala Ile Gly Asp Arg Glu Gln Glu Glu Lys Lys Gln Arg
 130 135 140
 His Arg Tyr Lys Leu Leu Gly Gln Lys Gln Ala Lys Val Leu Leu Ser
 145 150 155 160
 Gln Leu Arg His Val His Leu Asp Phe Lys Lys Leu Tyr Cys Asp Ser
 165 170 175
 Lys Lys Lys Glu Asp Gln Glu Lys Asp Glu Lys Asn Lys Gln Lys Arg
 180 185 190
 Ser Ile Lys Val Thr Lys Lys Lys Lys Gly Ile Ser Leu Gly Ala Ala
 195 200 205
 Ala Ser Gln Ala Ile Ala Ala Ala Glu Ala Trp Val Ile Ala Arg
 210 215 220
 Asn Lys Gly Val Leu Glu Thr Ala Ser Thr Leu Phe Tyr Gln Lys Asp
 225 230 235 240
 Glu Glu Ala

<210> 333
 <211> 584
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0331

<400> 333
 Ile Gln Arg Ile Ile Met Ala Val Ser Gly Gly Gly Gly Val Gln Pro
 1 5 10 15
 Ser Ser Asp Pro Gly Lys Trp Asn Pro Ala Leu Gln Gly Glu Gln Ala
 20 25 30
 Glu Gly Pro Ser Pro Leu Lys Glu Ser Ile Phe Ser Glu Thr Lys Gln
 35 40 45
 Ala Ser Ser Ala Ala Lys Gln Glu Ser Leu Val Arg Ser Gly Ser Thr
 50 55 60
 Gly Met Tyr Ala Thr Glu Ser Gln Ile Asn Lys Ala Lys Tyr Arg Lys
 65 70 75 80
 Ala Gln Asp Arg Ser Ser Thr Ser Pro Lys Ser Lys Leu Lys Gly Thr
 85 90 95
 Phe Ser Lys Met Arg Ala Ser Val Gln Gly Phe Met Ser Gly Phe Gly
 100 105 110
 Ser Arg Ala Ser Arg Val Ser Ala Lys Arg Ala Ser Asp Ser Gly Glu
 115 120 125
 Gly Thr Ser Leu Leu Pro Thr Glu Met Asp Val Ala Leu Lys Lys Gly
 130 135 140
 Asn Arg Ile Ser Pro Glu Met Gln Gly Phe Phe Leu Asp Ala Ser Gly
 145 150 155 160
 Met Gly Gly Ser Ser Ser Asp Ile Ser Gln Leu Ser Leu Glu Ala Leu
 165 170 175

Lys Ser Ser Ala Phe Ser Gly Ala Arg Ser Leu Ser Leu Ser Ser Ser
 180 185 190
 Glu Ser Ser Ser Val Ala Ser Phe Gly Ser Phe Gln Lys Ala Ile Glu
 195 200 205
 Pro Met Ser Glu Glu Lys Val Asn Ala Trp Thr Val Ala Arg Leu Gly
 210 215 220
 Gly Glu Met Val Ser Ser Leu Leu Asp Pro Asn Val Glu Thr Ser Ser
 225 230 235 240
 Leu Val Arg Arg Ala Met Ala Thr Gly Asn Glu Gly Met Ile Asp Leu
 245 250 255
 Ser Asp Leu Gly Gln Glu Glu Val Ser Thr Ala Met Thr Ser Pro Arg
 260 265 270
 Ala Val Glu Gly Lys Val Lys Val Ser Ser Ser Asp Ser Pro Glu Ala
 275 280 285
 Asn Pro Thr Gly Ile Pro Asn Ser Asn Thr Leu Glu Arg Ala Glu Lys
 290 295 300
 Glu Ala Glu Lys Gln Glu Ser Arg Glu Gln Leu Ser Glu Asp Gln Met
 305 310 315 320
 Met Leu Ala Arg Ala Met Ala Gly Leu Leu Thr Gly Ala Ala Pro Gln
 325 330 335
 Glu Val Leu Ser Asn Ser Val Trp Ser Gly Pro Ser Thr Val Phe Pro
 340 345 350
 Pro Pro Lys Phe Ser Gly Thr Leu Pro Thr Gln Arg Ser Gly Asp Lys
 355 360 365
 Ser Lys His Lys Ser Pro Gly Ile Glu Lys Ser Thr Asn His Thr Asn
 370 375 380
 Phe Ser Pro Leu Arg Glu Gly Thr Val Lys Ser Ala Glu Val Lys Ser
 385 390 395 400
 Leu Pro His Pro Glu Ser Met Tyr Arg Phe Pro Lys Asp Ser Ile Val
 405 410 415
 Ser Arg Glu Glu Pro Glu Ala Val Val Lys Glu Ser Thr Ala Phe Lys
 420 425 430
 Asn Pro Glu Asn Ser Ser Gln Asn Phe Leu Pro Ile Ala Val Glu Ser
 435 440 445
 Val Phe Pro Lys Glu Ser Gly Thr Gly Gly Ala Leu Gly Ser Asp Ala
 450 455 460
 Val Ser Ser Ser Tyr His Phe Leu Ala Gln Arg Gly Val Ser Leu Leu
 465 470 475 480
 Ala Pro Leu Pro Arg Ala Thr Asp Asp Tyr Lys Glu Lys Leu Glu Ala
 485 490 495
 His Lys Gly Pro Gly Gly Pro Pro Asp Pro Leu Ile Tyr Gln Tyr Arg
 500 505 510
 Asn Val Ala Val Glu Pro Pro Ile Val Leu Arg Ser Pro Gln Pro Phe
 515 520 525
 Ser Gly Ser Ser Arg Leu Ser Val Gln Gly Lys Pro Glu Ala Ala Ser
 530 535 540
 Val His Asp Asp Gly Gly Gly Gly Asn Ser Gly Gly Phe Ser Gly Asp
 545 550 555 560
 Gln Arg Arg Gly Ser Ser Gly Gln Lys Ala Ser Arg Gln Glu Lys Lys
 565 570 575
 Gly Lys Lys Leu Ser Thr Asp Ile
 580

<210> 334

<211> 47

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0332

<400> 334
Tyr Leu Asp Ser Arg Ile Arg Val Ile Pro Leu Ala Arg Gln Arg Cys
1 5 10 15
Thr Leu Leu His Leu Leu Ala Val Leu Cys Pro Pro Ile Ser Phe Phe
20 25 30
Thr Gln Gly Val Ser Pro Cys Val Phe Phe Cys Phe Leu Asp Phe
35 40 45

<210> 335
<211> 106
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0333

<400> 335
Val Asp Phe Phe Val Phe Val Phe Phe Met Gly Lys Pro Lys Lys Ser
1 5 10 15
Arg Thr Asp Arg Ala Leu Ala Gln Glu Ile Gln Lys Lys Ser Thr Glu
20 25 30
Val Leu Lys Lys Pro Ala Arg Ile Lys Ala Lys Asn Arg Arg Lys Phe
35 40 45
Leu Ile Ala Lys Glu Gln Lys Thr Leu Lys His Arg Ala Gln Glu Tyr
50 55 60
Asp Gln Leu Val Arg Ser Leu Leu Asp Ser Gln Lys Lys Asp Thr Asp
65 70 75 80
Lys Val Leu Ile Phe Asn Tyr Glu Asn Gly Phe Val Phe Thr Asp Lys
85 90 95
Asp His Phe Ser Lys Tyr Ser Ile Arg Leu
100 105

<210> 336
<211> 172
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0334

<400> 336
Thr Met Ser Val His Ile Thr Pro Arg Lys Cys Phe Ile Leu Cys Ile
1 5 10 15
Leu Ser Met Phe Thr Leu Pro Thr Leu Phe Pro Lys Ala His Leu Ile
20 25 30
Leu Phe Ser Pro Tyr Ile Val Leu Cys Phe Tyr Cys Phe Ser Lys Asp
35 40 45
Lys Gly Leu Val Leu Ala Leu Gly Cys Gly Val Leu Ser Asp Leu Ala
50 55 60
Leu Gly Ser Arg Gly Val Phe Leu Leu Leu Tyr Pro Leu Thr Ala Leu
65 70 75 80
Ile Thr His Lys Ala His Leu Ile Phe Ser Lys Glu Ser Lys Ala Ala
85 90 95
Leu Val Ile Val Asn Met Ile Phe Tyr Gly Val Phe Leu Leu Leu Thr
100 105 110
Ile Pro Met Cys Ala Leu Phe Gly His Glu Val Arg Trp Ser Ile Asp
115 120 125
Val Leu Met Ile Pro Leu Lys Cys Ser Phe Leu Asp Asn Leu Ile Phe
130 135 140
Thr Ser Val Ile Tyr Ile Leu Pro Cys Ala Ile Asn Ser Gly Ile His
145 150 155 160

Lys Met Ile Ser Phe Phe Arg Arg Leu Val Cys Tyr
165 170

<210> 337
<211> 289
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0335

<400> 337
Glu Ile Gly Met Leu Leu Arg Gly Ile Pro Ala Ala Glu Lys Ile Leu
1 5 10 15
Gln Arg Leu Lys Glu Glu Ile Ser Gln Ser Pro Thr Ser Pro Gly Leu
20 25 30
Ala Val Val Leu Ile Gly Asn Asp Pro Ala Ser Glu Val Tyr Val Gly
35 40 45
Met Lys Val Lys Lys Ala Thr Glu Ile Gly Ile Ile Ser Lys Ala His
50 55 60
Lys Leu Pro Ser Asp Ser Thr Leu Ser Ser Val Leu Lys Leu Ile Glu
65 70 75 80
Arg Leu Asn Gln Asp Pro Ser Ile His Gly Ile Leu Val Gln Leu Pro
85 90 95
Leu Pro Lys His Leu Asp Ser Glu Val Ile Leu Gln Ala Ile Ser Pro
100 105 110
Asp Lys Asp Val Asp Gly Leu His Pro Val Asn Met Gly Lys Leu Leu
115 120 125
Leu Gly Asn Phe Asp Gly Leu Leu Pro Cys Thr Pro Ala Gly Ile Ile
130 135 140
Glu Leu Leu Asn Tyr Tyr Glu Ile Pro Leu Arg Gly Arg His Ala Ala
145 150 155 160
Ile Val Gly Arg Ser Asn Ile Val Gly Lys Pro Leu Ala Ala Leu Met
165 170 175
Met Gln Lys His Pro Gln Thr Asn Cys Thr Val Thr Val Leu His Ser
180 185 190
Gln Ser Glu Asn Leu Pro Glu Ile Leu Lys Thr Ala Asp Ile Ile Ile
195 200 205
Ala Ala Leu Gly Ala Pro Leu Phe Ile Lys Glu Thr Met Val Ala Pro
210 215 220
His Ala Val Ile Val Asp Val Gly Thr Thr Arg Val Pro Ala Asp Asn
225 230 235 240
Ala Lys Gly Tyr Thr Leu Leu Gly Asp Val Asp Phe Asn Asn Val Val
245 250 255
Thr Lys Cys Ala Ala Ile Thr Pro Val Pro Gly Gly Val Gly Pro Met
260 265 270
Thr Val Ala Met Leu Met Ser Asn Thr Trp Arg Cys Tyr Gln Asn Phe
275 280 285
Ser

<210> 338
<211> 341
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0336

<400> 338

Arg	Cys	Asp	Lys	Met	Arg	Ser	Asn	His	Ser	Ser	Ser	Trp	Arg	Arg	Trp
1				5					10					15	
Ser	His	Asp	Cys	Arg	Tyr	Ala	His	Glu	Gln	Tyr	Met	Ala	Met	Leu	Pro
			20					25					30		
Lys	Phe	Phe	Leu	Val	Leu	Leu	Cys	Leu	Gly	Leu	Cys	Ser	Cys	Ser	Gln
		35					40					45			
Lys	Thr	Thr	Thr	Ile	Glu	Gly	Glu	Gln	Met	Thr	Ile	Phe	Tyr	Arg	Ile
	50					55					60				
Val	Leu	Gly	Thr	Ser	Leu	Ser	Ala	Lys	Glu	Lys	Ala	Ser	Leu	Ser	Gln
65					70					75					80
Gln	Ile	Asp	Arg	Cys	Phe	His	Lys	Ile	Asp	Ser	Ile	Tyr	Asn	Asn	Trp
				85					90					95	
Asn	Pro	Tyr	Ser	Glu	Leu	Ser	Ile	Ile	Asn	Arg	Ala	Pro	Ala	Asp	Val
			100					105					110		
Pro	Ile	Thr	Leu	Ser	Val	Glu	Leu	Ser	Glu	Phe	Leu	Asp	Gln	Val	Asp
	115						120					125			
Thr	Leu	Tyr	Lys	Leu	Ser	Glu	Gly	Arg	Phe	Asp	Pro	Thr	Val	Gly	Pro
	130					135					140				
Leu	Lys	Thr	Leu	Trp	Leu	Leu	His	Leu	Lys	Ser	Gln	Thr	Leu	Pro	Pro
145					150					155					160
Lys	Asp	Val	Trp	Glu	Gln	His	Tyr	Lys	Asp	Met	Gly	Trp	Gln	His	Leu
				165					170					175	
Glu	Phe	Gln	Ser	Asn	Thr	Lys	Thr	Leu	Ile	Lys	Lys	Asn	Pro	His	Val
			180					185					190		
Gln	Ile	Asp	Leu	Cys	Gly	Val	Val	Lys	Gly	Tyr	Ala	Val	Asp	Cys	Leu
	195						200					205			
Asn	Glu	Ile	Cys	Asn	Thr	Phe	Cys	Pro	Asn	Asn	Tyr	Val	Glu	Trp	Gly
	210					215					220				
Gly	Glu	Ile	Lys	Thr	Ser	Gly	His	His	Pro	Ser	Gly	Arg	Pro	Trp	Arg
225					230					235				240	
Ile	Phe	Ser	Glu	Ala	Ala	Gly	Thr	Ile	Leu	Asp	Ile	Asp	Asp	Met	Ala
				245					250					255	
Ile	Ala	Thr	Ser	Gly	Asn	His	Ile	Gln	Lys	Trp	Cys	Val	Glu	Gly	Lys
			260					265					270		
Ile	Tyr	Thr	His	Ile	Leu	Asp	Thr	Arg	Thr	Gly	Lys	Pro	Leu	Glu	Leu
	275						280					285			
Ser	Ser	Tyr	Pro	Ile	Gln	Ser	Val	Ser	Val	Val	His	Pro	Ser	Cys	Ala
	290					295					300				
Tyr	Ala	Asp	Ala	Ile	Ala	Thr	Val	Leu	Met	Thr	Phe	Asp	Ser	Lys	Ile
305					310					315					320
Glu	Ala	Lys	Gln	Trp	Ala	Glu	Glu	His	His	Ile	Leu	Thr	Tyr	Ile	Asn
				325				330						335	
Asp	Gly	Ala	Ser	Ser											
				340											

<210> 339

<211> 189

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0337

<400> 339

Ile	Glu	Glu	Ile	Phe	Pro	Gly	Asn	Gln	Gly	Lys	Arg	Ile	Leu	Ile	Ile
1				5					10					15	
Val	Leu	Arg	Arg	Lys	Asn	Cys	Phe	Leu	Leu	Tyr	Trp	Phe	Leu	Ser	Pro
			20				25						30		
Ile	Met	Gly	Glu	Asp	Leu	Met	Ala	Gln	Lys	Glu	Ile	Val	Ser	Asn	Arg
		35					40					45			

Lys Ala Leu Arg Asn Tyr Glu Val Ile Glu Thr Leu Glu Ala Gly Ile
 50 55 60
 Val Leu Thr Gly Thr Glu Ile Lys Ser Leu Arg Asp His Gly Gly Asn
 65 70 75 80
 Leu Gly Asp Ala Tyr Val Ile Val Ser Lys Gly Glu Gly Trp Leu Leu
 85 90 95
 Asn Ala Ser Ile Ala Pro Tyr Arg Phe Gly Asn Ile Tyr Asn His Glu
 100 105 110
 Glu Arg Arg Lys Arg Lys Leu Leu Leu His Arg Tyr Glu Leu Arg Lys
 115 120 125
 Leu Glu Gly Lys Ile Ala Gln Lys Gly Met Thr Leu Ile Pro Leu Gly
 130 135 140
 Met Phe Leu Ser Arg Gly Tyr Val Lys Val Arg Leu Gly Cys Cys Arg
 145 150 155 160
 Gly Lys Lys Ala Tyr Asp Lys Arg Arg Thr Ile Ile Glu Arg Glu Lys
 165 170 175
 Glu Arg Glu Val Ala Ala Ala Met Lys Arg Arg His His
 180 185

<210> 340
 <211> 368
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0338

<400> 340
 Glu Asn Met Lys Phe Val Val Ser Arg Asn Glu Leu Gly Asn Leu Ile
 1 5 10 15
 Lys Lys Ile Gln Ser Val Val Pro Gln Asn Thr Pro Ile Pro Val Leu
 20 25 30
 Thr His Val Leu Ile Glu Thr Tyr Asn Asp Glu Leu Val Phe Thr Ala
 35 40 45
 Thr Asp Leu Thr Val Ser Thr Arg Cys Val Thr Lys Ala Lys Val Tyr
 50 55 60
 Glu Lys Gly Ala Ile Ser Ile Pro Ser Lys Arg Phe Phe Gln Leu Val
 65 70 75 80
 Lys Glu Leu Thr Glu Ala Asn Leu Glu Ile Ser Ser Ser Ala Gly Glu
 85 90 95
 Met Ala Gln Ile Thr Ser Gly Ser Ser Cys Phe Arg Leu Leu Ser Met
 100 105 110
 Glu Lys Glu Asp Phe Pro Met Leu Pro Asp Ile Gln Asn Ala Leu Arg
 115 120 125
 Phe Ser Leu Pro Ala Glu Gln Leu Lys Thr Met Leu Gln Arg Thr Ser
 130 135 140
 Phe Ala Val Ser Arg Glu Glu Ser Arg Tyr Val Leu Thr Gly Val Leu
 145 150 155 160
 Leu Ala Ile Ala Asn Gly Val Ala Thr Ile Val Gly Thr Asp Gly Lys
 165 170 175
 Arg Leu Ala Lys Ile Asp Ala Glu Val Thr Leu Asp Lys Ser Phe Ser
 180 185 190
 Gly Glu Tyr Ile Ile Pro Ile Lys Ala Val Glu Glu Ile Ile Lys Met
 195 200 205
 Cys Ser Asp Glu Gly Glu Ala Ala Ile Phe Leu Asp Gln Asp Lys Ile
 210 215 220
 Ala Val Glu Cys Asp Asn Thr Leu Leu Ile Thr Lys Leu Leu Ser Gly
 225 230 235 240
 Glu Phe Pro Asp Phe Ser Pro Val Ile Ser Thr Glu Ser Asn Val Lys
 245 250 255

<400> 342
 Pro Leu Tyr Pro Leu Leu Ile Val Leu Ser Ser Arg Ser Ser Ala Glu
 1 5 10 15
 Lys Cys Ser Leu Lys Lys Gln Ala Asn Leu Asn Arg Gly Leu Trp Asp
 20 25 30
 Glu Gln Leu Val Lys His Gly Thr Tyr Leu Ser Ile Gln Arg Phe Leu
 35 40 45
 Cys Ser Gln Lys Leu Ser Asp Leu Ser Lys Glu Leu Trp Ser Asn Asn
 50 55 60
 Leu Lys Glu Gln Leu Ala Leu Lys Phe Lys Ser Ser Leu Ile Lys Asn
 65 70 75 80
 Ser Asp Ile Ser Glu Thr Ala Val Ala Glu Glu Phe His Lys Gln Leu
 85 90 95
 Ser Ile Ser Leu Pro Arg Asp Leu Glu
 100 105

<210> 343
 <211> 112
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0341

<400> 343
 Gly Ser Thr Ser Val Gly Pro His Arg Glu Asp Phe Leu Leu Thr Met
 1 5 10 15
 Asn Gln Met Pro Val Ser Gln Phe Ser Ser Glu Gly Gln Lys His Ser
 20 25 30
 Leu Leu Ala Ile Leu Arg Leu Ala Glu Cys Leu Tyr Leu Lys Gln Ser
 35 40 45
 His His Val Ser Pro Leu Val Cys Leu Asp Asp Ile His Ala Gly Leu
 50 55 60
 Asp Asn Glu Arg Val Gly Gln Leu Leu Asp Pro Ala Pro Thr Leu Gly
 65 70 75 80
 Gln Thr Leu Ile Thr Ser Thr His Met His Gly Glu Leu Pro Lys Thr
 85 90 95
 Ser Leu Val Leu Ser Ile Glu Asn Ala Gln Val Ser Glu Gln Ile Ile
 100 105 110

<210> 344
 <211> 148
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0342

<400> 344
 His Met Lys Lys Phe Leu Leu Thr Ile Leu Phe Leu Ala Val Gly Asn
 1 5 10 15
 Pro Leu Phe Ser Glu Thr Ser Val Ile Gln Thr Leu Pro Ser Gly Ile
 20 25 30
 Gly Gly Leu Lys Glu Thr Ser Lys Gln Lys Glu Ser Val Val Cys Val
 35 40 45
 His Ala Phe Leu Arg Ser Tyr Thr Ser Leu Lys Pro Ile Ala Arg Val
 50 55 60
 Leu Glu Lys Glu His Tyr Asp Val Phe Ile Trp Asn Tyr Glu Thr Arg
 65 70 75 80
 Lys Phe Thr Leu Glu Lys His Ala Glu His Leu Asn Arg Leu Leu Lys
 85 90 95

Lys Ile Ala Glu Leu Lys Pro Gly Val Pro Ile Asn Phe Val Thr His
 100 105 110
 Ser Ile Gly Gly Val Ile Val Arg Val Ala Leu Ala His Pro Asp Cys
 115 120 125
 Pro Glu Glu Ala Lys Lys Glu Lys Leu Phe Ser Trp Leu Leu Arg Thr
 130 135 140
 Gln Gly Leu His
 145

<210> 345
 <211> 199
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0343

<400> 345
 Leu Pro Arg Arg Ser Gln Lys Arg Lys Ala Ile Leu Met Ala Pro Pro
 1 5 10 15
 Asn Ala Gly Ser Thr Leu Ala Arg Arg Tyr Arg Cys Val Lys Phe Val
 20 25 30
 Gln Phe Val Phe Gly Gly Lys Leu Gly Arg Gln Leu Leu Thr Tyr Cys
 35 40 45
 Pro Thr Lys Met Leu Asn Val Gly Lys Leu Pro Ser Ser Leu Asp Val
 50 55 60
 Leu Ile Leu Ser Gly Asn Arg His Ser Lys Phe Leu Pro Phe Arg Leu
 65 70 75 80
 Pro Tyr Glu Asn Asp Gly Lys Val Cys Thr Ile Glu Thr Lys Leu Asp
 85 90 95
 Thr Pro His Lys Ala Tyr Val Ile His Thr Ser His Thr Tyr Ile Ile
 100 105 110
 Thr Asn Arg Lys Ser Leu Tyr Leu Met Lys Glu Phe Leu Lys Glu Gly
 115 120 125
 Asn Thr Thr Pro Ile Ile Glu His Val Pro Glu Ala Ala Leu Glu Gln
 130 135 140
 Thr Val Met Glu Asp Lys Gln Lys Asn Ser Arg Leu Lys Pro Tyr Pro
 145 150 155 160
 Asn Gln Asp Ile Tyr Val Ile His Cys Phe Gly Ser Arg Pro Tyr Asn
 165 170 175
 Leu Tyr Gly Phe Pro Lys Lys Trp Ser Leu Asn Gln Lys Asn Glu Ile
 180 185 190
 Asn Pro Glu Lys Leu Glu Lys
 195

<210> 346
 <211> 625
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0344

<400> 346
 Ser Ser Arg Tyr Met Thr Ile Ile Tyr Phe Ile Leu Ala Ala Leu Ala
 1 5 10 15
 Leu Gly Ile Leu Val Leu Ile His Glu Leu Gly His Leu Val Val Ala
 20 25 30
 Lys Ala Val Gly Met Ala Val Glu Ser Phe Ser Ile Gly Phe Gly Pro
 35 40 45

Ala Leu Phe Lys Lys Arg Ile Gly Gly Ile Glu Tyr Arg Ile Gly Cys
 50 55 60
 Ile Pro Phe Gly Gly Tyr Val Arg Ile Arg Gly Met Glu Arg Thr Lys
 65 70 75 80
 Glu Lys Gly Glu Lys Gly Lys Ile Asp Ser Val Tyr Asp Ile Pro Gln
 85 90 95
 Gly Phe Phe Ser Lys Ser Pro Trp Lys Arg Ile Leu Val Leu Val Ala
 100 105 110
 Gly Pro Leu Ala Asn Ile Leu Leu Ala Val Leu Ala Phe Ser Ile Leu
 115 120 125
 Tyr Met Asn Gly Gly Arg Ser Lys Asn Tyr Ser Asp Cys Ser Lys Val
 130 135 140
 Val Gly Trp Val His Pro Val Leu Gln Ala Glu Gly Leu Leu Pro Gly
 145 150 155 160
 Asp Glu Ile Leu Thr Cys Asn Gly Lys Pro Tyr Val Gly Asp Lys Asp
 165 170 175
 Met Leu Thr Thr Ser Leu Leu Glu Gly His Leu Asn Leu Glu Ile Lys
 180 185 190
 Arg Pro Gly Tyr Leu Thr Val Pro Ser Lys Glu Phe Ala Ile Asp Val
 195 200 205
 Glu Phe Asp Pro Thr Lys Phe Gly Val Pro Cys Ser Gly Ala Ser Tyr
 210 215 220
 Leu Leu Tyr Ser Asn Gln Val Pro Leu Thr Lys Asn Ser Pro Met Glu
 225 230 235 240
 Asn Ser Glu Leu Arg Pro Asn Asp Arg Phe Val Trp Met Asp Gly Thr
 245 250 255
 Leu Leu Phe Ser Met Ala Gln Ile Ser Gln Ile Leu Asn Glu Ser Tyr
 260 265 270
 Ala Phe Val Lys Val Ala Arg Asn Asp Lys Ile Phe Phe Ser Arg Gln
 275 280 285
 Pro Arg Val Leu Ala Ser Val Leu His Tyr Thr Pro Tyr Leu Arg Asn
 290 295 300
 Glu Leu Ile Asp Thr Gln Tyr Glu Ala Gly Leu Lys Gly Lys Trp Ser
 305 310 315 320
 Ser Leu Tyr Thr Leu Pro Tyr Val Ile Asn Ser Tyr Gly Tyr Ile Glu
 325 330 335
 Gly Glu Leu Thr Ala Ile Asp Pro Glu Ser Pro Leu Pro Gln Pro Gln
 340 345 350
 Glu Arg Leu Gln Leu Gly Asp Arg Ile Leu Ala Ile Asp Gly Thr Pro
 355 360 365
 Val Ser Gly Ser Val Asp Ile Leu Arg Leu Val Gln Asn His Arg Val
 370 375 380
 Ser Ile Ile Val Gln Gln Met Ser Pro Gln Glu Leu Glu Glu Val Asn
 385 390 395 400
 Ser Arg Asp Ala Asp Lys Arg Phe Ile Ala Ser Tyr His Ser Glu Asp
 405 410 415
 Leu Leu Gln Ile Leu Asn His Leu Gly Glu Ser His Pro Val Glu Val
 420 425 430
 Ala Gly Pro Tyr Arg Leu Leu Asp Pro Val Gln Pro Arg Pro Trp Ile
 435 440 445
 Asp Val Tyr Ser Ser Glu Ser Leu Asp Lys Gln Leu Glu Val Ala Lys
 450 455 460
 Lys Ile Lys Asn Lys Asp Lys Gln Arg Tyr Tyr Leu Glu Arg Leu Asp
 465 470 475 480
 Ala Glu Lys Gln Lys Pro Ser Leu Gly Ile Ser Leu Lys Asp Leu Lys
 485 490 495
 Val Arg Tyr Asn Pro Ser Pro Val Val Met Leu Ser Asn Ile Thr Lys
 500 505 510
 Glu Ser Leu Ile Thr Leu Lys Ala Leu Val Thr Gly His Leu Ser Pro
 515 520 525

Gln Trp Leu Ser Gly Pro Val Gly Ile Val Gln Val Leu His Thr Gly
 530 535 540
 Trp Ser Val Gly Phe Ser Glu Val Leu Phe Trp Ile Gly Leu Ile Ser
 545 550 555 560
 Met Asn Leu Ala Val Leu Asn Leu Leu Pro Ile Pro Val Leu Asp Gly
 565 570 575
 Gly Tyr Ile Leu Leu Cys Leu Trp Glu Ile Val Lys Arg Arg Arg Leu
 580 585 590
 Asn Met Lys Ile Val Glu Arg Ile Leu Val Pro Phe Thr Phe Leu Leu
 595 600 605
 Ile Ile Phe Phe Ile Phe Leu Thr Phe Gln Asp Leu Phe Arg Phe Phe
 610 615 620
 Gly
 625

<210> 347
 <211> 384
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0345

<400> 347
 Leu Lys Val Ala Cys Leu Lys His Leu Ala Val Leu Gly Ser Thr Gly
 1 5 10 15
 Ser Ile Gly Arg Gln Thr Leu Glu Ile Val Arg Arg Tyr Pro Ser Glu
 20 25 30
 Phe Lys Ile Ile Ser Met Ala Ser Tyr Gly Asn Asn Leu Arg Leu Phe
 35 40 45
 Phe Gln Gln Leu Glu Glu Phe Ala Pro Leu Ala Ala Val Tyr Asn
 50 55 60
 Glu Glu Val Tyr Asn Glu Ala Cys Gln Arg Phe Pro His Met Gln Phe
 65 70 75 80
 Phe Leu Gly Gln Glu Gly Leu Thr Gln Leu Cys Ile Met Asp Thr Val
 85 90 95
 Thr Thr Val Val Ala Ala Ser Ser Gly Ile Glu Ala Leu Pro Ala Ile
 100 105 110
 Leu Glu Ser Met Lys Lys Gly Lys Ala Leu Ala Leu Ala Asn Lys Glu
 115 120 125
 Ile Leu Val Cys Ala Gly Glu Leu Val Ser Lys Thr Ala Lys Glu Asn
 130 135 140
 Gly Ile Lys Val Leu Pro Ile Asp Ser Glu His Asn Ala Leu Tyr Gln
 145 150 155 160
 Cys Leu Glu Gly Arg Thr Ile Glu Gly Ile Lys Lys Leu Ile Leu Thr
 165 170 175
 Ala Ser Gly Gly Pro Leu Leu Asn Lys Ser Leu Glu Glu Leu Ser Cys
 180 185 190
 Val Thr Lys Gln Asp Val Leu Asn His Pro Ile Trp Asn Met Gly Ser
 195 200 205
 Lys Val Thr Val Asp Ser Ser Thr Leu Val Asn Lys Gly Leu Glu Ile
 210 215 220
 Ile Glu Ala Tyr Trp Leu Phe Gly Leu Glu Asn Val Glu Ile Leu Ala
 225 230 235 240
 Val Ile His Pro Gln Ser Leu Ile His Gly Met Val Glu Phe Leu Asp
 245 250 255
 Gly Ser Val Ile Ser Ile Met Asn Pro Pro Asp Met Leu Phe Pro Ile
 260 265 270
 Gln Tyr Ala Leu Thr Ala Pro Glu Arg Phe Ala Ser Pro Arg Asp Gly
 275 280 285

Met	Asp	Phe	Ser	Lys	Lys	Gln	Thr	Leu	Glu	Phe	Phe	Pro	Val	Asp	Glu
290						295					300				
Glu	Arg	Phe	Pro	Ser	Ile	Arg	Leu	Ala	Gln	Gln	Val	Leu	Glu	Lys	Gln
305					310					315					320
Gly	Ser	Ser	Gly	Ser	Phe	Phe	Asn	Ala	Ala	Asn	Glu	Val	Leu	Val	Arg
				325					330					335	
Arg	Phe	Leu	Cys	Glu	Glu	Ile	Ser	Trp	Cys	Asp	Ile	Leu	Arg	Lys	Leu
			340					345					350		
Thr	Thr	Leu	Met	Glu	Cys	His	Lys	Val	Tyr	Ala	Cys	His	Ser	Leu	Glu
		355					360					365			
Asp	Ile	Leu	Glu	Val	Asp	Gly	Glu	Ala	Arg	Ala	Leu	Ala	Gln	Glu	Ile
370						375					380				

<210> 348

<211> 329

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0346

<400> 348

Lys	Lys	Gly	Ser	Leu	Met	Ala	Leu	Gly	Pro	Ser	Pro	Tyr	Tyr	Gly	Val
1				5					10					15	
Ser	Phe	Phe	Gln	Phe	Phe	Ser	Val	Phe	Phe	Ser	Arg	Leu	Phe	Ser	Gly
			20					25					30		
Ser	Leu	Phe	Thr	Gly	Ser	Leu	Tyr	Ile	Asp	Asp	Ile	Gln	Ile	Ile	Val
		35					40					45			
Phe	Leu	Ala	Ile	Ser	Cys	Ser	Gly	Ala	Phe	Ala	Gly	Thr	Phe	Leu	Val
	50					55					60				
Leu	Arg	Lys	Met	Ala	Met	Tyr	Ala	Asn	Ala	Val	Ser	His	Thr	Val	Leu
65					70					75					80
Phe	Gly	Leu	Val	Cys	Val	Cys	Leu	Phe	Thr	His	Gln	Leu	Thr	Thr	Leu
				85					90					95	
Ser	Leu	Gly	Thr	Leu	Thr	Leu	Ala	Ala	Met	Ala	Thr	Ala	Met	Leu	Thr
			100					105					110		
Gly	Phe	Leu	Ile	Tyr	Phe	Ile	Arg	Asn	Thr	Phe	Lys	Val	Ser	Glu	Glu
		115					120					125			
Ser	Ser	Thr	Ala	Leu	Val	Phe	Ser	Leu	Leu	Phe	Ser	Leu	Ser	Leu	Val
	130					135					140				
Leu	Leu	Val	Phe	Met	Thr	Lys	Asn	Ala	His	Ile	Gly	Thr	Glu	Leu	Val
145					150					155					160
Leu	Gly	Asn	Ala	Asp	Ser	Leu	Thr	Lys	Glu	Asp	Ile	Phe	Pro	Val	Thr
				165					170					175	
Ile	Val	Ile	Leu	Ala	Asn	Ala	Val	Ile	Thr	Ile	Phe	Ala	Phe	Arg	Ser
			180					185					190		
Leu	Val	Cys	Ser	Ser	Phe	Asp	Ser	Val	Phe	Ala	Ser	Ser	Leu	Gly	Ile
		195					200					205			
Pro	Ile	Arg	Leu	Val	Asp	Tyr	Leu	Ile	Ile	Phe	Gln	Leu	Ser	Ala	Cys
	210						215					220			
Leu	Val	Gly	Ala	Phe	Lys	Ala	Val	Gly	Val	Leu	Met	Ala	Leu	Ala	Phe
225					230					235					240
Leu	Ile	Ile	Pro	Ser	Leu	Ile	Ala	Lys	Val	Ile	Ala	Lys	Ser	Ile	Arg
				245					250					255	
Ser	Leu	Met	Ala	Trp	Ser	Leu	Val	Phe	Ser	Ile	Gly	Thr	Ala	Phe	Leu
			260					265					270		
Ala	Pro	Ala	Ser	Ser	Arg	Ala	Ile	Leu	Ser	Ala	Tyr	Asp	Leu	Gly	Leu
		275					280					285			
Ser	Thr	Ser	Gly	Ile	Ser	Val	Val	Phe	Leu	Thr	Met	Met	Tyr	Ile	Val
	290					295					300				

Val Lys Phe Ile Ser Tyr Phe Arg Gly Tyr Phe Ser Lys Asn Phe Glu
 305 310 315 320
 Lys Ile Ser Glu Lys Ser Ser Gln Tyr
 325

<210> 349
 <211> 467
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0347

<400> 349
 Thr Phe Gly Thr Asn Pro Glu Ala Leu Ser Arg Lys Thr Ile Trp Ile
 1 5 10 15
 Val Leu Ile Met Leu Ser Cys Val Phe Ser Asp Thr Ile Phe Leu Ser
 20 25 30
 Ser Phe Leu Ala Val Thr Leu Ile Cys Met Thr Thr Ala Leu Trp Gly
 35 40 45
 Thr Ile Leu Leu Ile Ser Lys Gln Pro Leu Leu Ser Glu Ser Leu Ser
 50 55 60
 His Ala Ser Tyr Pro Gly Leu Leu Val Gly Ala Leu Met Ala Gln Tyr
 65 70 75 80
 Val Phe Ser Leu Gln Ala Ser Ile Phe Trp Ile Val Leu Phe Gly Cys
 85 90 95
 Ala Ala Ser Val Phe Gly Tyr Gly Ile Ile Val Phe Leu Gly Lys Val
 100 105 110
 Cys Lys Leu His Lys Asp Ser Ala Leu Cys Phe Val Leu Val Val Phe
 115 120 125
 Phe Ala Ile Gly Val Ile Leu Ala Ser Tyr Val Lys Glu Ser Ser Pro
 130 135 140
 Thr Leu Tyr Asn Arg Ile Asn Ala Tyr Leu Tyr Gly Gln Ala Ala Thr
 145 150 155 160
 Leu Gly Phe Leu Glu Ala Thr Leu Ala Ala Ile Val Phe Cys Ala Ser
 165 170 175
 Leu Phe Ala Leu Trp Trp Trp Tyr Arg Gln Ile Val Val Thr Thr Phe
 180 185 190
 Asp Lys Asp Phe Ala Val Thr Cys Gly Leu Lys Thr Val Leu Tyr Glu
 195 200 205
 Ala Leu Ser Leu Ile Phe Ile Ser Leu Val Ile Val Ser Gly Val Arg
 210 215 220
 Ser Val Gly Ile Val Leu Ile Ser Ala Met Phe Val Ala Pro Ser Leu
 225 230 235 240
 Gly Ala Arg Gln Leu Ser Asp Arg Leu Ser Thr Ile Leu Ile Leu Ser
 245 250 255
 Ala Phe Phe Gly Gly Ile Ser Gly Ala Leu Gly Ser Tyr Ile Ser Val
 260 265 270
 Ala Phe Thr Cys Arg Ala Ile Ile Gly Gln Gln Ala Val Pro Val Thr
 275 280 285
 Leu Pro Thr Gly Pro Leu Val Val Ile Cys Ala Gly Leu Leu Ala Gly
 290 295 300
 Leu Cys Leu Leu Phe Ser Pro Lys Ser Gly Trp Val Ile Arg Phe Val
 305 310 315 320
 Arg Arg Lys His Phe Ser Phe Ser Lys Asp Gln Glu His Leu Leu Lys
 325 330 335
 Val Phe Trp His Ile Ser His Asn Arg Leu Glu Asn Ile Ser Val Arg
 340 345 350
 Asp Phe Val Cys Ser Tyr Lys Tyr Gln Glu Tyr Phe Gly Pro Lys Pro
 355 360 365

Phe Pro Arg Trp Arg Val Gln Ile Leu Glu Trp Arg Gly Tyr Val Lys
 370 375 380
 Lys Glu Gln Asp Tyr Tyr Arg Leu Thr Lys Lys Gly Arg Ser Glu Ala
 385 390 395 400
 Leu Arg Leu Val Arg Ala His Arg Leu Trp Glu Ser Tyr Leu Val Asn
 405 410 415
 Ser Leu Asp Phe Ser Lys Glu Ser Val His Glu Leu Ala Glu Glu Ile
 420 425 430
 Glu His Val Leu Thr Glu Glu Leu Asp His Thr Leu Thr Glu Ile Leu
 435 440 445
 Asn Asp Pro Cys Tyr Asp Pro His Arg Gln Ile Ile Pro Asn Lys Lys
 450 455 460
 Lys Glu Val
 465

<210> 350
 <211> 263
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0348

<400> 350
 Glu Gly Trp Leu Leu Asn Val Lys Asp Glu Thr Phe Trp Ser Val His
 1 5 10 15
 Asn Leu Cys Val Asn Tyr Glu His Ala Ala Val Leu Tyr His Ile Ser
 20 25 30
 Phe Ser Leu Gly Lys Gly Ser Leu Thr Ala Ile Leu Gly Pro Asn Gly
 35 40 45
 Ala Gly Lys Ser Thr Leu Leu Lys Ala Ser Leu Gly Leu Ile Lys Pro
 50 55 60
 Ser Ser Gly Thr Val Tyr Phe Phe Asn Gln Lys Phe Lys Lys Val Arg
 65 70 75 80
 Gln Arg Ile Ala Tyr Met Pro Gln Arg Ala Ser Val Asp Trp Asp Phe
 85 90 95
 Pro Met Thr Val Leu Asp Leu Ala Leu Met Gly Cys Tyr Ser Tyr Lys
 100 105 110
 Gly Met Trp Gly Arg Ile Ser Ser Asp Asp Arg Arg Glu Ala Phe His
 115 120 125
 Ile Leu Glu Arg Val Gly Leu Glu Ser Val Ala Asp Arg Gln Ile Gly
 130 135 140
 Gln Leu Ser Gly Gly Gln Gln Arg Ala Phe Leu Ala Arg Ala Leu
 145 150 155 160
 Met Gln Lys Ala Asp Leu Tyr Leu Met Asp Glu Leu Phe Ser Ala Ile
 165 170 175
 Asp Met Ala Ser Phe Lys Thr Ser Val Gly Val Leu Gln Glu Leu Arg
 180 185 190
 Asp Gln Gly Lys Thr Ile Val Val Val His His Asp Leu Ser His Val
 195 200 205
 Arg Gln Leu Phe Asp His Val Val Leu Leu Asn Lys Arg Leu Ile Cys
 210 215 220
 Cys Gly Pro Thr Asp Glu Cys Leu Asn Gly Asp Thr Ile Phe Gln Thr
 225 230 235 240
 Tyr Gly Cys Glu Ile Glu Leu Leu Glu Gln Thr Leu Lys Leu Ser Arg
 245 250 255
 Gly Lys Gln Phe Gly Ser Cys
 260

<210> 351
 <211> 336
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0349

<400> 351
 Trp Ile Leu Lys Asn Ala Ser Arg Glu Met Asp Ala Lys Met Gly Tyr
 1 5 10 15
 Ile Phe Lys Val Met Arg Trp Ile Phe Cys Phe Val Ala Cys Gly Ile
 20 25 30
 Thr Phe Gly Cys Thr Asn Ser Gly Phe Gln Asn Ala Asn Ser Arg Pro
 35 40 45
 Cys Ile Leu Ser Met Asn Arg Met Ile His Asp Cys Val Glu Arg Val
 50 55 60
 Val Gly Asn Arg Leu Ala Thr Ala Val Leu Ile Lys Gly Ser Leu Asp
 65 70 75 80
 Pro His Ala Tyr Glu Met Val Lys Gly Asp Lys Asp Lys Ile Ala Gly
 85 90 95
 Ser Ala Val Ile Phe Cys Asn Gly Leu Gly Leu Glu His Thr Leu Ser
 100 105 110
 Leu Arg Lys His Leu Glu Asn Asn Pro Asn Ser Val Lys Leu Gly Glu
 115 120 125
 Arg Leu Ile Ala Arg Gly Ala Phe Val Pro Leu Glu Asp Gly Ile
 130 135 140
 Cys Asp Pro His Ile Trp Met Asp Leu Ser Ile Trp Lys Glu Ala Val
 145 150 155 160
 Ile Glu Ile Thr Glu Val Leu Ile Glu Lys Phe Pro Glu Trp Ser Ala
 165 170 175
 Glu Phe Lys Ala Asn Ser Glu Glu Leu Val Cys Glu Met Ser Ile Leu
 180 185 190
 Asp Ser Trp Ala Lys Gln Cys Leu Ser Thr Ile Pro Glu Asn Leu Arg
 195 200 205
 Tyr Leu Val Ser Gly His Asn Ala Phe Ser Tyr Phe Thr Arg Arg Tyr
 210 215 220
 Leu Ala Thr Pro Glu Glu Val Ala Ser Gly Ala Trp Arg Ser Arg Cys
 225 230 235 240
 Ile Ser Pro Glu Gly Leu Ser Pro Glu Ala Gln Ile Ser Val Arg Asp
 245 250 255
 Ile Met Ala Val Val Asp Tyr Ile Asn Glu His Asp Val Ser Val Val
 260 265 270
 Phe Pro Glu Asp Thr Leu Asn Gln Asp Ala Leu Lys Lys Ile Val Ser
 275 280 285
 Ser Leu Lys Lys Ser His Leu Val Arg Leu Ala Gln Lys Pro Leu Tyr
 290 295 300
 Ser Asp Asn Val Asp Asp Asn Tyr Phe Ser Thr Phe Lys His Asn Val
 305 310 315 320
 Cys Leu Ile Thr Glu Glu Leu Gly Gly Val Ala Leu Glu Cys Gln Arg
 325 330 335

<210> 352
 <211> 172
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0350

<400> 352

Glu	Val	Gly	Phe	Met	Ala	Val	Glu	Gln	Ser	His	Ile	Lys	Glu	Glu	Ile
1				5					10					15	
Glu	Lys	Leu	Ile	Gly	Lys	Ala	Ile	Lys	Arg	Val	Cys	Gly	Asn	Lys	Glu
			20					25					30		
Asn	Asp	Leu	Cys	Arg	Tyr	Leu	Pro	Gly	Pro	Ser	Gly	Gly	Tyr	Met	His
		35					40					45			
His	Phe	Thr	Leu	Lys	Lys	Met	Lys	Ser	Ala	Ala	Pro	Glu	Gln	Leu	Leu
		50				55					60				
Lys	Met	Leu	Lys	Thr	Phe	Ile	Leu	Glu	Ser	Glu	Thr	Pro	Arg	Thr	Ile
65					70					75				80	
Asn	Pro	Lys	Pro	Arg	Ala	Pro	Arg	Gly	Ser	Lys	Lys	Arg	Arg	Asp	Phe
				85				90						95	
Ile	Asn	Phe	Thr	Lys	Thr	Asp	Ile	Glu	Arg	Val	Leu	Glu	Leu	Ala	Arg
			100					105					110		
Gln	Val	Gly	Asp	Lys	Asp	Leu	Leu	Ala	Arg	Phe	Ser	Pro	Lys	Lys	Pro
		115				120						125			
Leu	Thr	Ser	Leu	Lys	Arg	Glu	Leu	Ile	Arg	Ser	Ile	Arg	Asn	Gly	Ile
		130				135					140				
Val	Ser	Val	Glu	Leu	Trp	Asn	Ala	Tyr	Val	Glu	Ala	Val	Lys	Ala	Val
145					150					155					160
Ser	Ser	Pro	Asn	Leu	Glu	Val	Thr	Ser	Pro	Phe	Val				
				165					170						

<210> 353
 <211> 524
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0351

<400> 353

Lys	Ile	Lys	Val	Phe	Gln	Arg	Val	Asn	Met	Thr	Lys	Thr	Glu	Glu	Lys
1				5					10					15	
Pro	Phe	Gly	Lys	Leu	Arg	Ser	Phe	Leu	Trp	Pro	Ile	His	Thr	His	Glu
			20					25					30		
Leu	Lys	Lys	Val	Leu	Pro	Met	Phe	Leu	Met	Phe	Phe	Cys	Ile	Thr	Phe
		35					40					45			
Asn	Tyr	Thr	Val	Leu	Arg	Asp	Thr	Lys	Asp	Thr	Leu	Ile	Val	Gly	Ala
		50				55					60				
Pro	Gly	Ser	Gly	Ala	Glu	Ala	Ile	Pro	Phe	Ile	Lys	Phe	Trp	Leu	Val
65					70					75				80	
Val	Pro	Cys	Ala	Ile	Ile	Phe	Met	Leu	Ile	Tyr	Ala	Lys	Leu	Ser	Asn
				85				90					95		
Ile	Leu	Ser	Lys	Gln	Ala	Leu	Phe	Tyr	Ala	Val	Gly	Thr	Pro	Phe	Leu
			100					105					110		
Ile	Phe	Phe	Ala	Leu	Phe	Pro	Thr	Val	Ile	Tyr	Pro	Leu	Arg	Asp	Val
		115					120					125			
Leu	His	Pro	Thr	Glu	Phe	Ala	Asp	Arg	Leu	Gln	Ala	Ile	Leu	Pro	Pro
		130				135					140				
Gly	Leu	Leu	Gly	Leu	Val	Ala	Ile	Leu	Arg	Asn	Trp	Thr	Phe	Ala	Ala
145					150					155				160	
Phe	Tyr	Val	Leu	Ala	Glu	Leu	Trp	Gly	Ser	Val	Met	Leu	Ser	Leu	Met
				165				170					175		
Phe	Trp	Gly	Phe	Ala	Asn	Glu	Ile	Thr	Lys	Ile	His	Glu	Ala	Lys	Arg
			180					185					190		
Phe	Tyr	Ala	Leu	Phe	Gly	Ile	Gly	Ala	Asn	Ile	Ser	Leu	Leu	Ala	Ser
		195					200					205			
Gly	Arg	Ala	Ile	Val	Trp	Ala	Ser	Lys	Leu	Arg	Ala	Ser	Val	Ser	Glu
		210				215						220			

Gly Val Asp Pro Trp Gly Ile Ser Leu Arg Leu Leu Met Ala Met Thr
 225 230 235 240
 Ile Val Ser Gly Leu Val Leu Met Ala Ser Tyr Trp Trp Ile Asn Lys
 245 250 255
 Asn Val Leu Thr Asp Pro Arg Phe Tyr Asn Pro Glu Glu Met Gln Lys
 260 265 270
 Gly Lys Lys Gly Ala Lys Pro Lys Met Asn Met Lys Asp Ser Phe Leu
 275 280 285
 Tyr Leu Ala Arg Ser Pro Tyr Ile Leu Leu Leu Ala Leu Leu Val Ile
 290 295 300
 Ala Tyr Gly Ile Cys Ile Asn Leu Ile Glu Val Thr Trp Lys Ser Gln
 305 310 315 320
 Leu Lys Leu Gln Tyr Pro Asn Met Asn Asp Tyr Ser Glu Phe Met Gly
 325 330 335
 Asn Phe Ser Phe Trp Thr Gly Val Val Ser Val Leu Ile Met Leu Phe
 340 345 350
 Val Gly Gly Asn Val Ile Arg Lys Phe Gly Trp Leu Thr Gly Ala Leu
 355 360 365
 Val Thr Pro Val Met Val Leu Thr Gly Ile Val Phe Phe Ala Leu
 370 375 380
 Val Ile Phe Arg Asn Gln Ala Ser Gly Leu Val Ala Met Phe Gly Thr
 385 390 395 400
 Thr Pro Leu Met Leu Ala Val Val Val Gly Ala Ile Gln Asn Ile Leu
 405 410 415
 Ser Lys Ser Thr Lys Tyr Ala Leu Phe Asp Ser Thr Lys Glu Met Ala
 420 425 430
 Tyr Ile Pro Leu Asp Gln Glu Gln Lys Val Lys Gly Lys Ala Ala Ile
 435 440 445
 Asp Val Val Ala Ala Arg Phe Gly Lys Ser Gly Gly Ala Leu Ile Gln
 450 455 460
 Gln Gly Leu Leu Val Ile Cys Gly Ser Ile Gly Ala Met Thr Pro Tyr
 465 470 475 480
 Leu Ala Val Ile Leu Leu Phe Ile Ile Ala Ile Trp Leu Val Ser Ala
 485 490 495
 Thr Lys Leu Asn Lys Leu Phe Leu Ala Gln Ser Ala Leu Lys Glu Gln
 500 505 510
 Glu Val Ala Gln Glu Asp Ser Ala Pro Ala Ser Ser
 515 520

<210> 354
 <211> 451
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0352

<400> 354
 Trp Val Gly Ile Phe Phe Ile Asn Ser His Phe Thr Asn Ser Tyr Ala
 1 5 10 15
 Phe Phe Asn Gln Lys Val Ile Ile Thr Val Arg His Ser Gly Cys Thr
 20 25 30
 Met Lys Cys Ser Pro Leu Thr Leu Val Pro His Ile Phe Leu Lys Asn
 35 40 45
 Asp Cys Glu Cys His Arg Ser Cys Ser Leu Lys Ile Arg Thr Ile Ala
 50 55 60
 Arg Leu Ile Leu Gly Leu Val Leu Ala Leu Val Ser Ala Leu Ser Phe
 65 70 75 80
 Val Phe Leu Ala Ala Pro Ile Ser Tyr Ala Ile Gly Gly Thr Leu Ala
 85 90 95

Leu Ala Ala Ile Val Ile Leu Ile Ile Thr Leu Val Val Ala Leu Leu
 100 105 110
 Ala Lys Ser Lys Val Leu Pro Ile Pro Asn Glu Leu Gln Lys Ile Ile
 115 120 125
 Tyr Asn Arg Tyr Pro Lys Glu Val Phe Tyr Phe Val Lys Thr His Ser
 130 135 140
 Leu Thr Val Asn Glu Leu Lys Ile Phe Ile Asn Cys Trp Lys Ser Gly
 145 150 155 160
 Thr Asp Leu Pro Pro Asn Leu His Lys Lys Ala Glu Ala Phe Gly Ile
 165 170 175
 Asp Ile Leu Lys Ser Ile Asp Leu Thr Leu Phe Pro Glu Phe Glu Glu
 180 185 190
 Ile Leu Leu Gln Asn Cys Pro Leu Tyr Trp Leu Ser His Phe Ile Asp
 195 200 205
 Lys Thr Glu Ser Val Ala Gly Glu Ile Gly Leu Asn Lys Thr Gln Lys
 210 215 220
 Val Tyr Gly Leu Leu Gly Pro Leu Ala Phe His Lys Gly Tyr Thr Thr
 225 230 235 240
 Ile Phe His Ser Tyr Thr Arg Pro Leu Leu Thr Leu Ile Ser Glu Ser
 245 250 255
 Gln Tyr Lys Phe Leu Tyr Ser Lys Ala Ser Lys Asn Gln Trp Asp Ser
 260 265 270
 Pro Ser Val Lys Lys Thr Cys Glu Glu Ile Phe Lys Glu Leu Pro His
 275 280 285
 Asn Met Ile Phe Arg Lys Asp Val Gln Gly Ile Ser Gln Phe Leu Phe
 290 295 300
 Leu Phe Phe Ser His Gly Ile Thr Trp Glu Gln Ala Gln Met Ile Gln
 305 310 315 320
 Leu Ile Asn Pro Asp Asn Trp Lys Met Leu Cys Gln Phe Asp Lys Ala
 325 330 335
 Gly Gly His Cys Ser Met Ala Thr Phe Gly Gly Phe Leu Asn Thr Glu
 340 345 350
 Thr Asn Met Phe Asp Pro Val Ser Ser Asn Tyr Glu Pro Thr Val Asn
 355 360 365
 Phe Met Thr Trp Lys Glu Leu Lys Val Leu Leu Glu Lys Val Lys Glu
 370 375 380
 Ser Pro Met His Pro Ala Ser Ala Leu Val Gln Lys Ile Cys Val Asn
 385 390 395 400
 Thr Thr His His Gln Asn Leu Leu Lys Arg Trp Gln Phe Val Arg Asn
 405 410 415
 Thr Ser Ser Gln Trp Thr Ser Ser Leu Pro Gln Tyr Ala Phe His Ala
 420 425 430
 Gln Thr Tyr Lys Leu Glu Lys Lys Ile Glu Ser Ser Leu Pro Ile Arg
 435 440 445
 Ser Ser Leu
 450

<210> 355
 <211> 81
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0353

<400> 355
 Leu Arg Phe Arg Asn Ile Lys Lys Ser Leu Ile Phe Ile Lys Arg Ile
 1 5 10 15
 Arg Tyr Ser Gln Ser Gly Lys Glu Gln Lys Gly Ala Arg Pro Phe Phe
 20 25 30

Lys Lys Ser Ile Thr Ser Ser Leu Val Ile Leu Leu Leu Glu Ala Ile
 35 40 45
 Phe Asn Glu Asn Phe Ser Ser Ile Ile Gln Asn Asn Phe Asn Lys Asn
 50 55 60
 Phe Lys Asn Lys Asn Ile Ser Ile Asn Arg Ile Phe Val Lys Phe Thr
 65 70 75 80
 Ile

<210> 356
 <211> 482
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0354

<400> 356
 Tyr Lys Thr Ile Ser Ile Lys Ile Leu Lys Ile Lys Thr Phe Leu Leu
 1 5 10 15
 Ile Gly Phe Leu Leu Asn Leu Arg Tyr Asn Thr Gln Ile Asp Glu Pro
 20 25 30
 Arg Lys Cys Met Ser Asn Ile Thr Ser Pro Val Ile Gln Asn Asn Arg
 35 40 45
 Ser Cys Asn Tyr Tyr Phe Glu Leu Lys Asn Ser Thr Thr Ile His Ile
 50 55 60
 Val Ile Ser Ala Ile Leu Leu Cys Gly Ala Leu Ile Ala Phe Leu Cys
 65 70 75 80
 Val Ala Ala Pro Val Ser Tyr Ile Leu Ser Gly Ala Leu Leu Gly Leu
 85 90 95
 Gly Leu Leu Ile Ala Leu Ile Gly Val Ile Leu Gly Ile Lys Lys Ile
 100 105 110
 Thr Pro Met Ile Ser Ser Lys Glu Gln Val Phe Pro Gln Glu Leu Val
 115 120 125
 Asn Arg Ile Arg Ala His Tyr Pro Lys Phe Val Ser Asp Phe Val Ser
 130 135 140
 Glu Ala Lys Pro Asn Leu Lys Asp Leu Ile Ser Phe Ile Asp Leu Leu
 145 150 155 160
 Asn Gln Leu His Ser Glu Val Gly Ser Ser Thr Asn Tyr Asn Val Ser
 165 170 175
 Glu Glu Leu Gln Gln Lys Ile Asp Thr Phe Glu Gly Ile Ala Arg Leu
 180 185 190
 Lys Asn Glu Val Arg Thr Ala Ser Leu Lys Arg Leu Glu Ser Ala Ala
 195 200 205
 Ser Ser Arg Pro Leu Phe Pro Ser Leu Pro Lys Ile Leu Gln Lys Val
 210 215 220
 Phe Pro Phe Phe Trp Leu Gly Glu Phe Ile Ser Ala Gly Ser Lys Val
 225 230 235 240
 Val Glu Leu His Arg Val Lys Lys Ile Gly Gly Ser Leu Glu Glu Asp
 245 250 255
 Leu Ser Asp Tyr Ile Lys Pro Glu Met Leu Pro Thr Tyr Trp Leu Ile
 260 265 270
 Pro Leu Asp Phe Arg Pro Thr Asn Ser Ser Ile Leu Asn Leu His Thr
 275 280 285
 Leu Val Leu Ala Arg Val Leu Thr Arg Asp Val Phe Gln His Leu Lys
 290 295 300
 Tyr Ala Ala Leu Asn Gly Glu Trp Asn Leu Asn His Ser Asp Leu Asn
 305 310 315 320
 Thr Met Lys Gln Gln Leu Phe Ala Lys Tyr His Ala Ala Tyr Gln Ser
 325 330 335

Tyr Lys His Leu Ser Gln Pro Ser Leu Gln Glu Asp Glu Phe Tyr Asn
 340 345 350
 Leu Leu Leu Cys Ile Phe Lys His Arg Tyr Ser Trp Lys Gln Met Ser
 355 360 365
 Leu Ile Lys Thr Val Pro Ala Asp Leu Trp Glu Asn Leu Cys Cys Leu
 370 375 380
 Thr Leu Asp His Thr Gly Arg Pro Gln Asp Met Glu Phe Ala Ser Leu
 385 390 395 400
 Ile Gly Thr Leu Tyr Thr Gln Gly Leu Ile His Lys Glu Ser Glu Ala
 405 410 415
 Phe Leu Ser Ser Leu Thr Leu Leu Ser Leu Asp Gln Phe Lys Thr Ile
 420 425 430
 Arg Arg Gln Ser Thr Asn Ile Ala Met Phe Leu Glu Asn Leu Ala Thr
 435 440 445
 His Asn Ser Thr Phe Arg Ser Leu Pro Pro Ile Thr Val His Pro Leu
 450 455 460
 Lys Arg Ser Val Phe Ser Gln Pro Glu Glu Asp Glu Ser Ser Leu Leu
 465 470 475 480
 Ile Gly

<210> 357
 <211> 455
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0355

<400> 357
 Ile Arg Asp Phe Tyr Leu His Ile Ile Tyr Thr Ala Phe Asn Arg Ser
 1 5 10 15
 Ile Ser Lys Glu Leu Ala Met Ser Met Thr Ile Val Pro His Ala Leu
 20 25 30
 Phe Lys Asn His Cys Glu Cys His Ser Thr Phe Pro Leu Ser Ser Arg
 35 40 45
 Thr Ile Val Arg Ile Ala Ile Ala Ser Leu Phe Cys Ile Gly Ala Leu
 50 55 60
 Ala Ala Leu Gly Cys Leu Ala Pro Pro Val Ser Tyr Ile Val Gly Ser
 65 70 75 80
 Val Leu Ala Phe Ile Ala Phe Val Ile Leu Ser Leu Val Ile Leu Ala
 85 90 95
 Leu Ile Phe Gly Glu Lys Lys Leu Pro Pro Thr Pro Arg Ile Ile Pro
 100 105 110
 Asp Arg Phe Thr His Val Ile Asp Glu Ala Tyr Gly Leu Ser Ile Ser
 115 120 125
 Ala Phe Val Arg Glu Gln Gln Val Thr Leu Ala Glu Phe Arg Gln Phe
 130 135 140
 Ser Thr Ala Leu Leu Cys Asn Ile Ser Pro Glu Glu Lys Ile Lys Gln
 145 150 155 160
 Leu Pro Ser Glu Leu Arg Ser Lys Val Glu Ser Phe Gly Ile Ser Arg
 165 170 175
 Leu Ala Gly Asp Leu Glu Lys Asn Asn Trp Pro Ile Phe Glu Asp Leu
 180 185 190
 Leu Ser Gln Thr Cys Pro Leu Tyr Trp Leu Gln Lys Phe Ile Ser Ala
 195 200 205
 Gly Asp Pro Gln Val Cys Arg Asp Leu Gly Val Pro Arg Glu Cys Tyr
 210 215 220
 Gly Tyr Tyr Trp Leu Gly Pro Leu Gly Tyr Ser Thr Ala Lys Ala Thr
 225 230 235 240

Ile Phe Cys Lys Glu Thr His His Ile Leu Gln Gln Leu Thr Lys Glu
 245 250 255
 Asp Val Leu Leu Leu Lys Asn Lys Ala Leu Gln Glu Lys Trp Asp Thr
 260 265 270
 Asp Glu Val Lys Ala Ile Val Glu Arg Ile Tyr Thr Thr Tyr Thr Ala
 275 280 285
 Arg Gly Thr Leu Lys Thr Glu Ala Gly Gly Leu Thr Lys Glu Thr Ile
 290 295 300
 Ser Lys Glu Leu Leu Leu Leu Ser Leu His Gly Tyr Ser Phe Asp Gln
 305 310 315 320
 Leu Gln Leu Ile Thr Gln Leu Pro Arg Asp Ala Trp Asp Trp Leu Cys
 325 330 335
 Phe Val Asp Asn Ser Thr Ala Tyr Asn Leu Gln Leu Cys Ala Leu Val
 340 345 350
 Gly Ala Leu Ser Ser Gln Asn Leu Leu Asp Glu Ser Ser Ile Asp Phe
 355 360 365
 Asp Val Asn Leu Gly Leu Tyr Val Ile Gln Asp Leu Lys Glu Ala Val
 370 375 380
 Gln Ala Phe Ser Ala Ser Asp Glu Pro Lys Lys Glu Leu Gly Lys Phe
 385 390 395 400
 Leu Leu Arg His Leu Ser Ser Val Ser Lys Arg Leu Glu Ser Val Leu
 405 410 415
 Arg Gln Gly Leu His Arg Ile Ala Leu Glu His Gly Asn Ala Arg Ala
 420 425 430
 Arg Val Tyr Asp Val Asn Phe Val Thr Gly Ala Arg Ile His Arg Lys
 435 440 445
 Thr Ser Ile Phe Phe Lys Asp
 450 455

<210> 358
 <211> 119
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0356

<400> 358
 Lys Gln Val Gln Leu Phe Gln Tyr Met Asn Glu Ser Gly Trp Asp Trp
 1 5 10 15
 Leu Cys Asp Phe Asp Ser Gln Gly Glu Gly Phe Gln Leu Ser Arg Leu
 20 25 30
 Val Gly Leu Leu His Ser Ser Trp Ala Leu Tyr Glu Ala Lys Glu Gln
 35 40 45
 Phe Tyr Leu Pro Glu Val Ser Leu Leu Thr Trp Glu Glu Leu Ile Glu
 50 55 60
 Met Gln Leu Leu Ser Lys Pro Thr Lys His Gly Val Ala Lys Asp Leu
 65 70 75 80
 Cys Asn Val Phe Glu Lys His Phe Gln Arg Phe Arg Gln Tyr Leu Gly
 85 90 95
 Ser Leu Asp Leu Asn Gln Arg Phe Glu Asn Thr Phe Leu Asn Tyr Pro
 100 105 110
 Lys Tyr His Leu Asp Arg Glu
 115

<210> 359
 <211> 291
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0357

<400> 359

Tyr Ser Ser His Asn Gly Ala Ser Met Val Asn Ile Gln Pro Val Tyr
1 5 10 15
Arg Asn Thr Gln Val Asn Tyr Ser Gln Ala Thr Gln Phe Ser Val Cys
20 25 30
Gln Pro Ala Leu Ser Leu Ile Ile Val Ser Val Val Ala Ala Val Leu
35 40 45
Ala Ile Val Ala Leu Val Cys Ser Gln Ser Leu Leu Ser Ile Glu Leu
50 55 60
Gly Thr Ala Leu Val Leu Val Ser Leu Ile Leu Phe Ala Ser Ala Met
65 70 75 80
Phe Met Ile Tyr Lys Met Arg Gln Glu Pro Lys Glu Leu Leu Ile Pro
85 90 95
Lys Lys Ile Met Glu Leu Ile Gln Glu His Tyr Pro Ser Ile Val Val
100 105 110
Asp Phe Ile Arg Asp Gln Glu Val Ser Ile Tyr Glu Ile His His Leu
115 120 125
Ile Ser Ile Leu Asn Lys Thr Asn Val Phe Asp Lys Ala Pro Val Tyr
130 135 140
Leu Gln Glu Lys Leu Leu Gln Phe Gly Ile Glu Lys Phe Lys Asp Val
145 150 155 160
His Pro Ser Lys Leu Pro Asn Phe Glu Glu Ile Leu Leu Gln His Cys
165 170 175
Pro Leu His Trp Leu Gly Arg Leu Val Tyr Pro Met Val Ser Asp Val
180 185 190
Thr Pro Gly Thr Tyr Gly Tyr Tyr Trp Cys Gly Pro Leu Gly Leu Tyr
195 200 205
Glu Asn Ala Pro Ser Leu Phe Glu Arg Arg Ser Leu Leu Leu Leu Lys
210 215 220
Lys Ile Ser Phe Gly Glu Phe Ala Leu Leu Glu Asp Gly Leu Lys Lys
225 230 235 240
Asn Thr Trp Ser Ser Ser Glu Leu Val Gln Ile Arg Gln Asn Leu Phe
245 250 255
Thr Arg Tyr Tyr Ala Asp Lys Glu Glu Val Asp Glu Ala Glu Leu Asn
260 265 270
Ala Asp Tyr Glu Gln Phe Asp Ser Leu Leu His Leu Ile Phe Ser His
275 280 285
Lys Leu Ser
290

<210> 360

<211> 60

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0358

<400> 360

Glu Glu Val Leu Ser Val Ser Met Lys Leu Ile Pro Thr Gln Asp Ser
1 5 10 15
Ile Glu Arg Glu Thr Asp Ser Lys Arg Asp Lys Lys Ile Phe Thr Ile
20 25 30
Tyr Ile Cys Ser Ser Lys Val Leu Ala Gly His Phe Phe Ser His Leu
35 40 45
Asp Lys His Asn Lys Ile His Glu Ser Ile Gly Val
50 55 60

<210> 361
 <211> 608
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0359

<400> 361
 Ile Thr Leu Gln Tyr Ile Leu Lys Glu Tyr Lys Ile Glu Asn Ile Arg
 1 5 10 15
 Asn Phe Ser Ile Ala His Ile Asp His Gly Lys Ser Thr Ile Ala
 20 25 30
 Asp Arg Leu Leu Glu Ser Thr Ser Thr Val Glu Glu Arg Glu Met Arg
 35 40 45
 Glu Gln Leu Leu Asp Ser Met Asp Leu Glu Arg Glu Arg Gly Ile Thr
 50 55 60
 Ile Lys Ala His Pro Val Thr Met Thr Tyr Leu Tyr Glu Gly Glu Val
 65 70 75 80
 Tyr Gln Leu Asn Leu Ile Asp Thr Pro Gly His Val Asp Phe Ser Tyr
 85 90 95
 Glu Val Ser Arg Ser Leu Ser Ala Cys Glu Gly Ala Leu Leu Ile Val
 100 105 110
 Asp Ala Ala Gln Gly Val Gln Ala Gln Ser Leu Ala Asn Val Tyr Leu
 115 120 125
 Ala Leu Glu Arg Asp Leu Glu Ile Ile Pro Val Leu Asn Lys Ile Asp
 130 135 140
 Leu Pro Ala Ala Asp Pro Val Arg Ile Ala Gln Gln Ile Glu Asp Tyr
 145 150 155 160
 Ile Gly Leu Asp Thr Thr Asn Ile Ile Ala Cys Ser Ala Lys Thr Gly
 165 170 175
 Gln Gly Ile Pro Ala Ile Leu Lys Ala Ile Ile Asp Leu Val Pro Pro
 180 185 190
 Pro Lys Ala Pro Ala Glu Thr Glu Leu Lys Ala Leu Val Phe Asp Ser
 195 200 205
 His Tyr Asp Pro Tyr Val Gly Ile Met Val Tyr Val Arg Ile Ile Ser
 210 215 220
 Gly Glu Leu Lys Lys Gly Asp Arg Ile Thr Phe Met Ala Ala Lys Gly
 225 230 235 240
 Ser Ser Phe Glu Val Leu Gly Ile Gly Ala Phe Leu Pro Lys Ala Thr
 245 250 255
 Phe Ile Glu Gly Ser Leu Arg Pro Gly Gln Val Gly Phe Phe Ile Ala
 260 265 270
 Asn Leu Lys Lys Val Lys Asp Val Lys Ile Gly Asp Thr Val Thr Lys
 275 280 285
 Thr Lys His Pro Ala Lys Thr Pro Leu Glu Gly Phe Lys Glu Ile Asn
 290 295 300
 Pro Val Val Phe Ala Gly Ile Tyr Pro Ile Asp Ser Ser Asp Phe Asp
 305 310 315 320
 Thr Leu Lys Asp Ala Leu Gly Arg Leu Gln Leu Asn Asp Ser Ala Leu
 325 330 335
 Thr Ile Glu Gln Glu Ser Ser His Ser Leu Gly Phe Gly Phe Arg Cys
 340 345 350
 Gly Phe Leu Gly Leu Leu His Leu Glu Ile Ile Phe Glu Arg Ile Ile
 355 360 365
 Arg Glu Phe Asp Leu Asp Ile Ile Ala Thr Ala Pro Ser Val Ile Tyr
 370 375 380
 Lys Val Val Leu Lys Asn Gly Lys Val Leu Asp Ile Asp Asn Pro Ser
 385 390 395 400
 Gly Tyr Pro Asp Pro Ala Ile Ile Glu His Val Glu Glu Pro Trp Val
 405 410 415

His	Val	Asn	Ile	Ile	Thr	Pro	Gln	Glu	Tyr	Leu	Ser	Asn	Ile	Met	Asn
			420					425					430		
Leu	Cys	Leu	Asp	Lys	Arg	Gly	Ile	Cys	Val	Lys	Thr	Glu	Met	Leu	Asp
		435					440					445			
Gln	His	Arg	Leu	Val	Leu	Ala	Tyr	Glu	Leu	Pro	Leu	Asn	Glu	Ile	Val
	450					455					460				
Ser	Asp	Phe	Asn	Asp	Lys	Leu	Lys	Ser	Val	Thr	Lys	Gly	Tyr	Gly	Ser
465					470					475				480	
Phe	Asp	Tyr	Arg	Leu	Gly	Asp	Tyr	Arg	Lys	Gly	Ser	Ile	Ile	Lys	Leu
				485					490					495	
Glu	Val	Leu	Ile	Asn	Glu	Glu	Pro	Ile	Asp	Ala	Phe	Ser	Cys	Leu	Val
		500						505					510		
His	Arg	Asp	Lys	Ala	Glu	Ser	Arg	Gly	Arg	Ser	Ile	Cys	Glu	Lys	Leu
	515						520					525			
Val	Asp	Val	Ile	Pro	Gln	Gln	Leu	Phe	Lys	Ile	Pro	Ile	Gln	Ala	Ala
	530					535					540				
Ile	Asn	Lys	Lys	Val	Ile	Ala	Arg	Glu	Thr	Ile	Arg	Ala	Leu	Ser	Lys
545					550					555					560
Asn	Val	Thr	Ala	Lys	Cys	Tyr	Gly	Gly	Asp	Ile	Thr	Arg	Lys	Arg	Lys
				565					570					575	
Leu	Trp	Glu	Lys	Gln	Lys	Lys	Gly	Lys	Lys	Arg	Met	Lys	Glu	Phe	Gly
		580					585						590		
Lys	Val	Ser	Ile	Pro	Asn	Thr	Ala	Phe	Ile	Glu	Val	Leu	Lys	Leu	Asp
		595					600					605			

<210> 362

<211> 481

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0360

<400> 362

Val	Ala	Leu	Gln	Thr	Asn	Ile	Gly	Leu	Ile	Gly	Leu	Ala	Val	Met	Gly
1				5					10					15	
Lys	Asn	Leu	Val	Leu	Asn	Met	Ile	Asp	His	Gly	Phe	Ser	Val	Ser	Val
		20						25					30		
Tyr	Asn	Arg	Thr	Pro	Glu	Lys	Thr	Arg	Asp	Phe	Leu	Lys	Glu	Tyr	Pro
	35						40					45			
Asn	His	Arg	Glu	Leu	Val	Gly	Phe	Glu	Ser	Leu	Glu	Asp	Phe	Val	Asn
	50					55					60				
Ser	Leu	Glu	Arg	Pro	Arg	Lys	Ile	Met	Leu	Met	Ile	Gln	Ala	Gly	Lys
65					70					75				80	
Pro	Val	Asp	Gln	Ser	Ile	His	Ala	Leu	Leu	Pro	Phe	Leu	Glu	Pro	Gly
			85						90					95	
Asp	Val	Ile	Ile	Asp	Gly	Gly	Asn	Ser	Tyr	Phe	Lys	Asp	Ser	Glu	Arg
		100					105						110		
Arg	Cys	Lys	Glu	Leu	Gln	Glu	Lys	Gly	Ile	Leu	Phe	Leu	Gly	Val	Gly
		115					120					125			
Ile	Ser	Gly	Gly	Glu	Glu	Gly	Ala	Arg	His	Gly	Pro	Ser	Ile	Met	Pro
	130					135					140				
Gly	Gly	Asn	Pro	Glu	Ala	Trp	Pro	Leu	Val	Ala	Pro	Ile	Phe	Gln	Ser
145					150					155				160	
Ile	Ala	Ala	Lys	Val	Gln	Gly	Arg	Pro	Cys	Cys	Ser	Trp	Val	Gly	Thr
			165						170					175	
Gly	Gly	Ala	Gly	His	Tyr	Val	Lys	Ala	Val	His	Asn	Gly	Ile	Glu	Tyr
		180					185						190		
Gly	Asp	Ile	Gln	Leu	Ile	Cys	Glu	Ala	Tyr	Gly	Ile	Leu	Arg	Asp	Phe
		195					200					205			

Leu Lys Leu Ser Ala Thr Ala Val Ala Thr Ile Leu Lys Glu Trp Asn
 210 215 220
 Thr Leu Glu Leu Glu Ser Tyr Leu Ile Arg Ile Ala Ser Glu Val Leu
 225 230 235 240
 Ala Leu Lys Asp Pro Glu Gly Ile Pro Val Ile Asp Thr Ile Leu Asp
 245 250 255
 Val Val Gly Gln Lys Gly Thr Gly Lys Trp Thr Ala Ile Asp Ala Leu
 260 265 270
 Asn Ser Gly Val Pro Leu Ser Leu Ile Ile Gly Ala Val Leu Ala Arg
 275 280 285
 Phe Leu Ser Ser Trp Lys Glu Ile Arg Glu Gln Ala Ala Arg Asn Tyr
 290 295 300
 Pro Gly Thr Pro Leu Ile Phe Glu Met Pro His Asp Pro Ser Val Phe
 305 310 315 320
 Ile Gln Asp Val Phe His Ala Leu Tyr Ala Ser Lys Ile Ile Ser Tyr
 325 330 335
 Ala Gln Gly Phe Met Leu Leu Gly Glu Ala Ser Lys Glu Tyr Asn Trp
 340 345 350
 Gly Leu Asp Leu Gly Glu Ile Ala Leu Met Trp Arg Gly Gly Cys Ile
 355 360 365
 Ile Gln Ser Ala Phe Leu Asp Val Ile His Lys Gly Phe Ala Ala Asn
 370 375 380
 Pro Glu Asn Thr Ser Leu Ile Phe Gln Glu Tyr Phe Arg Gly Ala Leu
 385 390 395 400
 Arg His Ala Glu Met Gly Trp Arg Arg Thr Val Val Thr Ala Ile Gly
 405 410 415
 Ala Gly Leu Pro Ile Pro Cys Leu Ala Ala Ala Ile Thr Phe Tyr Asp
 420 425 430
 Gly Tyr Arg Thr Ala Ser Ser Ser Met Ser Leu Ala Gln Gly Leu Arg
 435 440 445
 Asp Tyr Phe Gly Ala His Thr Tyr Glu Arg Asn Asp Arg Pro Arg Gly
 450 455 460
 Glu Phe Tyr His Thr Asp Trp Val His Thr Lys Thr Thr Glu Arg Val
 465 470 475 480
 Lys

<210> 363
 <211> 423
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0361

<400> 363

Ser Leu Ala Ile Leu Asn Tyr Val Arg Ser Leu Met Gln Ser Trp Leu
 1 5 10 15
 Gln Ser Leu Gln Glu Arg Asn Ile Leu Glu Asn Phe Thr Ala Gly Leu
 20 25 30
 Glu Ser Val Glu Gly Pro Ile Ala Ala Tyr Leu Gly Phe Asp Pro Thr
 35 40 45
 Ala Pro Ala Leu His Ile Gly His Trp Ile Gly Ile Cys Phe Leu Lys
 50 55 60
 Arg Leu Ala Ala Leu Gly Ile Thr Pro Ile Ala Leu Val Gly Gly Ala
 65 70 75 80
 Thr Gly Met Val Gly Asp Pro Ser Gly Lys Gln Ser Glu Arg Ser Leu
 85 90 95
 Leu Gln Thr Ser Glu Val Phe Asp Asn Ser Gln Lys Ile Thr Ala Cys
 100 105 110

Leu Gln Arg Tyr Leu Pro Gly Val Thr Leu Val Asn Asn Ala Asp Trp
 115 120 125
 Leu Gln Glu Ile Ser Leu Ile Asp Phe Leu Gly Asp Ile Gly Lys His
 130 135 140
 Phe Arg Leu Gly Gln Met Leu Val Lys Asp Thr Ile Lys Gln Arg Val
 145 150 155 160
 His Ser Asp Glu Gly Ile Ser Tyr Thr Glu Phe Ser Tyr Leu Ile Leu
 165 170 175
 Gln Ser Tyr Asp Phe Tyr His Leu Phe Lys Asn Tyr Gly Thr Ile Leu
 180 185 190
 Gln Cys Gly Gly Ser Asp Gln Trp Gly Asn Ile Thr Ser Gly Ile Asp
 195 200 205
 Phe Ile Arg Arg Lys Gly Leu Gly Gln Ala Tyr Gly Leu Thr Tyr Pro
 210 215 220
 Leu Leu Thr Asn Ala Gln Gly Lys Lys Ile Gly Lys Thr Glu Ser Gly
 225 230 235 240
 Thr Val Trp Leu Asp Ser Asp Leu Thr Ser Pro Phe Glu Leu Tyr Gln
 245 250 255
 Tyr Leu Leu Arg Leu Pro Asp Asp Thr Ile Pro Lys Ile Ala Arg Thr
 260 265 270
 Leu Thr Leu Leu Ser Asn Glu Glu Ile Gln Asp Ile Asp Arg Arg Val
 275 280 285
 Gln Thr Asp Pro Val Ala Val Lys Glu Phe Val Ala Gln Asp Ile Leu
 290 295 300
 Ser Ala Ile His Gly Asp Leu Gly Leu Glu Glu Ala Leu Ser Val Thr
 305 310 315 320
 Arg Ser Met His Pro Gly Asn Leu Ser Ser Leu Ser Glu Lys Asp Phe
 325 330 335
 His Glu Leu Phe Ala Gly Gly Met Gly Ala Ser Leu Asp Lys Ser Glu
 340 345 350
 Val Leu Gly Lys Arg Trp Leu Asp Leu Phe Leu Val Leu Gly Leu Cys
 355 360 365
 Lys Ser Lys Gly Glu Ile Arg Arg Leu Ile Glu Gln Lys Gly Val Tyr
 370 375 380
 Ile Asn Asn Val Pro Ile Ala Asn Glu His Ser Val Cys Glu Glu Gln
 385 390 395 400
 Asp Ile Cys Tyr Gly His Tyr Val Leu Leu Ala Gln Gly Lys Lys Arg
 405 410 415
 Lys Leu Val Leu Tyr Leu Asn
 420

<210> 364
 <211> 263
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0362

<400> 364

Leu Asp Lys Lys Lys Phe Val Lys Thr Gln Gln Thr Gln Asn Ile Ile
 1 5 10 15
 Glu Val Trp Asn Phe Tyr Trp Glu Thr Gln Glu Ile Glu Tyr Arg Asp
 20 25 30
 Ser Leu Ile Glu Phe Tyr Leu Pro Leu Val Lys Ser Val Val His Arg
 35 40 45
 Leu Ile Ser Gly Met Pro Ser His Val Lys Thr Glu Asp Leu Tyr Ala
 50 55 60
 Ser Gly Val Glu Gly Leu Val Arg Ala Val Glu Arg Tyr Asn Pro Glu
 65 70 75 80

Arg Ser Arg Arg Phe Glu Gly Tyr Ala Val Phe Leu Ile Lys Ala Ala
 85 90 95
 Ile Ile Asp Asp Leu Arg Lys Gln Asp Trp Val Pro Arg Ser Val His
 100 105 110
 Gln Lys Ala Asn Lys Leu Ser Gly Ala Met Asp Ser Leu Arg Gln Ser
 115 120 125
 Leu Gly Lys Glu Pro Thr Asp Leu Glu Leu Cys Glu Tyr Leu Asn Ile
 130 135 140
 Ser Gln Gln Glu Leu Ser Gly Trp Phe Val Ser Ala Arg Pro Ala Leu
 145 150 155 160
 Ile Val Ser Leu Asn Glu Glu Trp Pro Ser Gln Ser Asp Glu Gly Ala
 165 170 175
 Gly Met Ala Leu Glu Glu Arg Ile Pro Asp Glu Arg Ala Glu Thr Gly
 180 185 190
 Tyr Asp Val Val Asp Lys Gln Glu Phe Ser Leu Cys Leu Ala Asn Ala
 195 200 205
 Ile Gln Glu Leu Glu Glu Lys Glu Arg Lys Val Met Ala Leu Tyr Tyr
 210 215 220
 Tyr Glu Glu Leu Val Leu Lys Glu Ile Gly Lys Val Leu Gly Val Ser
 225 230 235 240
 Glu Ser Arg Val Ser Gln Ile His Ser Lys Ala Leu Leu Lys Leu Arg
 245 250 255
 Ala Ala Leu Ser Ala Phe Arg
 260

<210> 365
 <211> 586
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0363

<400> 365
 Glu Ala Val Phe Val Ser Gly Lys Lys Asp Gly Val Arg Gly Met Ile
 1 5 10 15
 Phe Val Pro Leu Ser Ile Leu Val Leu Ile Phe Leu Pro Leu Pro Gln
 20 25 30
 Ile Leu Leu Asp Phe Gly Leu Cys Ile Ser Phe Ala Leu Ser Leu Leu
 35 40 45
 Thr Val Cys Trp Val Phe Thr Leu Asn Ser Ser Asn Ser Ala Lys Leu
 50 55 60
 Phe Pro Pro Phe Phe Leu Tyr Leu Cys Leu Leu Arg Leu Gly Leu Asn
 65 70 75 80
 Leu Ala Ser Thr Arg Trp Ile Val Ser Ser Gly Thr Ala Ser Ser Leu
 85 90 95
 Ile Val Ser Leu Gly Ser Phe Phe Ser Leu Gly Ser Leu Trp Ala Ala
 100 105 110
 Thr Phe Ala Cys Leu Leu Leu Phe Val Asn Phe Leu Met Val Ser
 115 120 125
 Lys Gly Ser Glu Arg Ile Ala Glu Val Arg Ser Arg Phe Phe Leu Glu
 130 135 140
 Ala Leu Pro Ala Lys Gln Met Ala Leu Asp Ser Asp Leu Val Ser Gly
 145 150 155 160
 Arg Ala Ser Tyr Lys Ala Val Lys Lys Gln Lys Asn Ala Leu Ile Glu
 165 170 175
 Glu Gly Asp Phe Phe Ser Ala Met Glu Gly Val Phe Arg Phe Val Lys
 180 185 190
 Gly Asp Ala Ile Ile Ser Cys Ile Leu Leu Leu Val Asn Val Val Ser
 195 200 205

Val Thr Cys Leu Tyr Tyr Thr Ser Gly Tyr Ala Leu Glu Gln Met Trp
 210 215 220
 Phe Thr Val Leu Gly Asp Ala Leu Val Ser Gln Val Pro Ala Leu Leu
 225 230 235 240
 Thr Ser Cys Ala Ala Thr Leu Ile Ser Lys Ile Asp Lys Glu Glu
 245 250 255
 Ser Leu Leu Asn Tyr Leu Phe Glu Tyr Tyr Lys Gln Leu Arg Gln His
 260 265 270
 Phe Arg Val Val Ser Leu Leu Ile Phe Ser Leu Cys Cys Ile Pro Ser
 275 280 285
 Ser Pro Lys Phe Pro Ile Val Leu Leu Ala Ser Leu Leu Trp Leu Ala
 290 295 300
 Tyr Arg Lys Glu Glu Pro Ala Ser Glu Asp Ser Cys Ile Glu Arg Ala
 305 310 315 320
 Phe Ser Tyr Val Glu Gly Ala Cys Pro Lys Glu Gln Glu Ser Gln Phe
 325 330 335
 Tyr Gln Val Tyr Arg Ala Ala Ser Glu Glu Val Phe Glu Asp Leu Gly
 340 345 350
 Val Arg Leu Pro Val Leu Thr Ser Leu Arg Ile Glu Glu Arg Pro Trp
 355 360 365
 Leu Arg Val Phe Gly Gln Asn Val Tyr Leu Asp Glu Met Thr Pro Glu
 370 375 380
 Ala Val Leu Pro Phe Leu Arg Asn Ile Ala His Glu Ala Leu Asn Ala
 385 390 395 400
 Glu Val Val Gln Lys Tyr Leu Glu Glu Ser Glu Arg Val Phe Gly Ile
 405 410 415
 Ala Val Glu Asp Ile Val Pro Lys Lys Ile Ser Leu Ser Ser Leu Val
 420 425 430
 Val Leu Ser Arg Leu Leu Val Arg Glu Arg Val Ser Leu Lys Leu Phe
 435 440 445
 Pro Lys Ile Leu Glu Ala Val Ala Val Tyr Gln Asn Ser Gly Asp Ser
 450 455 460
 Leu Glu Ile Leu Ala Glu Lys Val Arg Lys Ser Leu Gly Tyr Trp Ile
 465 470 475 480
 Gly Arg Ser Leu Trp Asp Gln Lys Gln Thr Leu Glu Val Ile Thr Ile
 485 490 495
 Asp Phe His Val Glu Glu Leu Ile Asn Ser Ser Tyr Ser Lys Ser Asn
 500 505 510
 Pro Val Met Gln Glu Asn Val Ile Arg Arg Val Asp Ser Leu Leu Glu
 515 520 525
 Arg Ser Val Phe Lys Asp Phe Arg Ala Ile Val Thr Ser Cys Glu Thr
 530 535 540
 Arg Phe Glu Met Lys Lys Met Leu Asp Pro His Phe Pro Asp Leu Leu
 545 550 555 560
 Val Leu Ser His Asp Glu Leu Pro Lys Glu Ile Pro Ile Ser Phe Leu
 565 570 575
 Gly Ile Val Ser Asp Glu Val Leu Val Pro
 580 585

<210> 366

<211> 95

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0364

<400> 366

Lys Glu Asn Ser Met Ala Lys Leu Val Ile Thr Ser Asp Asp Glu Gln
 1 5 10 15

Gln Glu Phe Glu Leu Glu Asp Asn Ser Glu Ile Ala Glu Pro Cys Glu
 20 25 30
 Ser Met Gly Ile Pro Phe Ala Cys Thr Glu Gly Val Cys Gly Thr Cys
 35 40 45
 Val Ile Glu Val Leu Glu Gly Arg Glu Asn Leu Ser Glu Phe Thr Glu
 50 55 60
 Pro Glu Tyr Asp Phe Leu Gly Glu Pro Glu Asp Ser Asn Glu Arg Leu
 65 70 75 80
 Ala Cys Gln Cys Arg Ile Lys Gly Gly Cys Val Lys Val Thr Phe
 85 90 95

<210> 367
 <211> 349
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0365

<400> 367
 Phe Lys Gly Thr Gln Val Asn Ser Leu Ile Met Ala Thr Ile Ser Pro
 1 5 10 15
 Ile Ser Leu Thr Val Asp His Pro Leu Val Asp Thr Lys Lys Lys Ser
 20 25 30
 Cys Ser Asn Phe Asp Lys Ile Gln Ser Arg Ile Leu Leu Ile Thr Ala
 35 40 45
 Ile Phe Ala Val Leu Val Thr Ile Gly Thr Leu Leu Ile Gly Leu Leu
 50 55 60
 Leu Asn Ile Pro Val Ile Tyr Phe Leu Thr Gly Ile Ser Phe Ile Ala
 65 70 75 80
 Val Val Leu Ser Asn Phe Ile Leu Tyr Lys Arg Ala Thr Thr Leu Leu
 85 90 95
 Lys Pro Arg Ala Cys Gly Lys His Lys Glu Ile Lys Pro Lys Arg Val
 100 105 110
 Ser Thr Asn Leu Gln Tyr Ser Ser Ile Ser Ile Ala Ile Asn Arg Ser
 115 120 125
 Lys Glu Asn Trp Glu His Gln Pro Lys Asp Leu Gln Asn Leu Pro Ala
 130 135 140
 Pro Ser Ala Leu Leu Thr Asp Asn Pro Tyr Glu Ile Trp Lys Ala Lys
 145 150 155 160
 His Ser Leu Phe Ser Leu Val Ser Leu Leu Pro Gly Gly Asn Pro Glu
 165 170 175
 His Leu Leu Ile Ser Ala Ser Glu Asn Leu Gly Lys Thr Leu Leu Ile
 180 185 190
 Glu Glu Thr Ser Gln Asn Ala Pro Ile Ser Ser Tyr Val Asp Thr Thr
 195 200 205
 Pro Ser Pro Lys Ser Leu Leu Asn Glu Ala Ile Gln Glu Thr Arg Val
 210 215 220
 Glu Ile Asn Thr Glu Leu Pro Ala Gly Asp Ser Gly Glu Arg Leu Tyr
 225 230 235 240
 Trp Gln Pro Asp Phe Arg Gly Arg Val Phe Leu Pro Gln Ile Pro Thr
 245 250 255
 Thr Pro Glu Ala Ile Tyr Gln Tyr Tyr Tyr Ala Leu Tyr Val Thr Tyr
 260 265 270
 Ile Gln Thr Ala Ile Asn Thr Asn Thr Gln Ile Ile Gln Ile Pro Leu
 275 280 285
 Tyr Ser Leu Arg Glu His Leu Tyr Ser Arg Glu Leu Pro Pro Gln Ser
 290 295 300
 Arg Met Gln Gln Ser Leu Ala Met Ile Thr Ala Val Lys Tyr Met Ala
 305 310 315 320

Tyr Gln Lys Leu Leu Arg Asn Glu Trp Thr Leu Val Asn Thr Leu Ser
 130 135 140
 Glu Ile Asn Ile Ser Trp Thr Leu Gln Asp Pro Asn Gln Arg Tyr Tyr
 145 150 155 160
 Val Trp Glu His Gln Gly Ala Pro Ile Thr Leu Val Ala Thr Thr Gly
 165 170 175
 Asp Ile Ala Lys Pro Arg Leu Lys Thr Ser Gly Arg Val Met Ile Val
 180 185 190
 Asn Ala Ala Asn Ser Asn Met Gln Ser Gly Gly Ala Gly Thr Asn Ala
 195 200 205
 Ala Leu Ser Ala Ala Thr His Pro Thr Cys Trp Asn Asn Thr Arg Thr
 210 215 220
 Ser Gly Gly Lys Ile Asn Thr Gly Lys Gly Leu Ser Val Gly Glu Cys
 225 230 235 240
 Arg Ser Ala Pro Trp Ile Asn Arg Asp Trp Thr Asn Lys
 245 250

<210> 370
 <211> 114
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0368

<400> 370
 Thr Leu Ala Lys Asp Tyr Leu Trp Val Asn Ala Ala Gln His Pro Gly
 1 5 10 15
 Ser Ile Glu Thr Gly Arg Ile Asn Asp Thr Asn Pro Gly Glu Ala His
 20 25 30
 Phe Leu Ala Gln Leu Leu Gly Pro Lys Tyr Glu Gly Glu Leu Lys Ala
 35 40 45
 His Pro Glu Lys Leu Ser Asn Val Ile Lys Lys Ala Tyr Leu Asn Cys
 50 55 60
 Phe Asp Glu Ala Leu Asn Asn Gln Ala Thr Val Val Gln Val Pro Leu
 65 70 75 80
 Ile Ser Ser Ser Ile Tyr Ser Pro Gly Gly Lys Leu Glu Leu Glu Pro
 85 90 95
 Val Asn Gln Thr Lys Pro Asn Ser Ser Ala Tyr Lys Leu Tyr His Ile
 100 105 110
 Arg Thr

<210> 371
 <211> 406
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0369

<400> 371
 Asn Ile Met Thr Asp Ser Asn Pro Leu Pro Ser Tyr Thr Asp Ala Ser
 1 5 10 15
 Leu Tyr Arg Thr Pro Ala Lys His Ser Tyr Pro Ile Arg Leu Pro Leu
 20 25 30
 Asn Arg Thr Asp Arg Ile Glu Lys Ile Leu Lys Ile Val Thr Leu Thr
 35 40 45
 Leu Ala Leu Ala Cys Ala Leu Gly Phe Ser Ile Ala Ala Gly Ile Leu
 50 55 60

Ala Met Pro Ile Phe Ser Ala Val Val Val Ile Thr Leu Ala Ile Ala
 65 70 75 80
 Ala Val Ser Leu Tyr Ser Leu Leu Lys Lys Pro Lys Leu Tyr Glu Ile
 85 90 95
 Leu Pro Gln Ile Glu Pro Glu Ser Glu Gln Ser Ser Leu Ser Pro Ser
 100 105 110
 Pro Gln Pro Pro Glu Gln Gln Asp Leu Pro Leu Gln Ile Asp Pro Leu
 115 120 125
 Pro Asp Pro Glu Ser Leu Pro Glu Val Ser Leu Ala Asp Leu Thr Thr
 130 135 140
 Pro Pro Glu Glu Leu Thr Ala Ile Thr Val Thr Pro Gly Tyr Glu Ala
 145 150 155 160
 Leu Leu Glu Gln Asn Trp Asp Leu Leu Pro Ser Leu Ala Ala Val Asp
 165 170 175
 Pro Ser Phe Thr Thr Glu Thr Pro Gln Gln Pro Cys Phe Ile Trp Lys
 180 185 190
 Leu Lys Asp Ser Lys Leu Ile Phe Ile Ser Thr Ser Gly Asp Ile Ala
 195 200 205
 Val Pro Arg Ile Lys Thr Gln Gly Arg Val Met Ile Val Asn Ala Ala
 210 215 220
 Asn Glu Asn Ile Ser Arg Glu Gly Gly Gly Thr Asn Lys Ala Leu Ser
 225 230 235 240
 Leu Ala Thr Ser Leu Gln Cys Trp Asn Ala Ser Arg Leu Pro Arg Ala
 245 250 255
 His Ser Arg Ser Gly Ser Gln Leu Gln Pro Gly Glu Cys Arg Ser Ala
 260 265 270
 Lys Trp Glu Asn Ser Asp His Thr Ser Asn Asp His Val Pro Gly Lys
 275 280 285
 Ala His Phe Leu Ala Gln Leu Leu Gly Pro Glu Ala Ala Lys Cys Asn
 290 295 300
 Asn Asp Pro Lys Gln Ala Phe Glu Val Ser Lys Lys Ala Phe His Asn
 305 310 315 320
 Leu Phe Gln Glu Ala Glu Ile Ile Gly Val Asp Val Ile Gln Leu Pro
 325 330 335
 Leu Ile Gly Cys Asn Leu Phe Ala Pro Ser Arg Leu Leu Asn Leu Gly
 340 345 350
 Lys Thr Arg Ala Glu Trp Ile Glu Ala Ile Lys Leu Ala Leu Ile Thr
 355 360 365
 Ser Leu Gln Asp Phe Gly Trp Glu Gln Asp Asn Gln Glu Glu Gln Lys
 370 375 380
 Ile Ile Ile Leu Thr Asp Lys Asp Gln Pro Pro Ile Ile Pro Pro Arg
 385 390 395 400
 Phe Asp Leu Thr Thr Pro
 405

<210> 372

<211> 386

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0370

<400> 372

Lys Arg Ile Phe Phe Lys Leu Phe Val Phe Tyr Leu Lys Ser Phe Met
 1 5 10 15
 Ser Thr Thr Glu Pro Asn Leu Thr Asn Val Asn Leu Thr Met Leu Ile
 20 25 30
 Ser Ser Glu Ser Met Pro Thr Gln Leu Ala Ser His Lys Leu Lys Gly
 35 40 45

Leu Asp Leu Val Ala Phe Ile Leu Ile Ile Gly Ile Ala Val Ser Ser
 50 55 60
 Gly Thr Ala Ala Ile Ile Leu Gly Ile Pro Leu Leu Phe Ile Leu Thr
 65 70 75 80
 Ala Leu Ala Val Leu Ala Phe Ser Ile Leu Leu Tyr Phe Leu Leu Arg
 85 90 95
 Glu Pro Lys Ser Pro Ile Ser Val Thr His Gln Pro Thr Pro Ile Ile
 100 105 110
 Lys Asp Thr Asp Leu Pro Pro Val Pro Pro Leu Ala Leu Thr Pro Val
 115 120 125
 Pro Thr Glu Ala Val Leu Glu Glu Pro Pro Leu Pro Ser Pro Arg Thr
 130 135 140
 His Gln Thr Leu Leu Gln Glu Asn Trp Asp Arg Ile Pro Asp Leu Gln
 145 150 155 160
 Ala Asn Thr Asp Met Pro Phe Ile Ala Ala Asp Asn Gln Thr Gly Tyr
 165 170 175
 Ala Trp His Leu Lys Asn Ser Asn Leu Thr Leu Ile Ser Thr Leu Gly
 180 185 190
 Pro Ile Glu Lys Pro Arg Tyr Lys Thr Gln Gly Ile Val Met Ile Val
 195 200 205
 Asn Ala Ala Thr Pro Asn Met Ala Asn Asn Val Lys Gly Thr Ser Leu
 210 215 220
 Ala Leu Ala Lys Ala Thr Ser Val Arg Cys Trp Glu Asn Ser Lys Lys
 225 230 235 240
 Ser Pro Asp Pro Leu Arg Ser Lys Gln Pro Leu Gln Leu Gly Glu Cys
 245 250 255
 Arg Ser Ala Lys Trp Glu Asn Leu Asn Gly Thr Thr Asn Ala Gly Lys
 260 265 270
 Ala Gly Leu Pro Gln Phe Leu Gly Gln Leu Leu Gly Pro Lys Ala Ser
 275 280 285
 Asp Tyr Asn Tyr Asn Pro Asn Asp Ala Phe Thr Phe Cys Arg Gln Ala
 290 295 300
 Tyr Leu Asn Cys Leu Asn Glu Ala Lys Arg Arg Lys Thr Thr Val Val
 305 310 315 320
 Gln Leu Pro Leu Leu Ser Ser His Phe Pro Gly Ser Pro Lys Asp Glu
 325 330 335
 Glu Thr Thr Ser Leu Arg Leu Gln Trp Ile Asp Gly Val Lys Leu Ala
 340 345 350
 Leu Ile Asp Ala Leu Gln Thr Phe Gly Ser Glu Ala Glu Asn Gln Asn
 355 360 365
 Gln Pro Trp Val Ile Ile Leu Thr Thr Leu Ala Arg His Pro Leu Ile
 370 375 380
 Thr Pro
 385

<210> 373
 <211> 121
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0371

<400> 373
 Lys Thr Met Pro Val Ser Ser Ala Pro Leu Pro Thr Ser His Arg Pro
 1 5 10 15
 Ser Ser Gly Asn Leu Gly Leu Met Glu Pro Asn Ser Lys Ala Leu Lys
 20 25 30
 Ala Lys His Gln Asp Lys Thr Thr Lys Thr Ile Lys Leu Leu Val Lys
 35 40 45

Ile Leu Val Ala Ile Leu Val Ile Glu Val Leu Gly Ile Ile Ala Ala
50 55 60
Phe Phe Ile Pro Gly Thr Pro Pro Ile Cys Leu Ile Ile Leu Gly Gly
65 70 75 80
Leu Ile Leu Thr Thr Val Leu Cys Val Leu Leu Leu Val Ile Lys Leu
85 90 95
Ala Leu Val Asn Lys Thr Glu Gly Thr Thr Ala Glu Gln Gln Ile Lys
100 105 110
Arg Lys Leu Ser Ser Lys Ser Ile Ser
115 120

<210> 374
<211> 117
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0372

<400> 374
Asn Tyr Arg Ala Cys His Arg Asn Ile Gly Asn His Met Ser Ser Pro
1 5 10 15
Val Val Thr Gly Thr Ser Ser Ala Ser Pro Val Glu Gln Thr Lys Leu
20 25 30
Gly Glu Phe Leu Glu Arg Leu Ser Gly Ser Gly Arg Cys Ile Lys Ile
35 40 45
Ala Phe Ala Ala Ser Thr Ala Leu Leu Leu Asn Thr Phe Val Ser
50 55 60
Gly Ile Val Ala Ile Ala Met Ile Phe Val Ala Thr Ser Val Gly Ala
65 70 75 80
Tyr Phe Thr Val Ile Gly Pro Leu Phe Leu Leu Ser Leu Ile Leu Leu
85 90 95
Ala Ile Met Leu Ile Ser Met Tyr Lys Ile Thr His Pro Ser Gln Asn
100 105 110
Thr Pro Ile Ser Asn
115

<210> 375
<211> 621
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0373

<400> 375
Asn Ser Glu Ile Phe Glu Ile Phe Met Thr Leu Ile Thr Pro Ala Ile
1 5 10 15
Asn Ser Ser Arg Arg Lys Thr His Thr Val Arg Ile Gly Asn Leu Tyr
20 25 30
Ile Gly Ser Asp His Ser Ile Lys Thr Gln Ser Met Thr Thr Thr Leu
35 40 45
Thr Thr Asp Ile Asp Ser Thr Val Glu Gln Ile Tyr Ala Leu Ala Glu
50 55 60
His Asn Cys Asp Ile Val Arg Val Thr Val Gln Gly Ile Lys Glu Ala
65 70 75 80
Gln Ala Cys Glu Lys Ile Lys Glu Arg Leu Ile Ala Leu Gly Leu Asn
85 90 95
Ile Pro Leu Val Ala Asp Ile His Phe Phe Pro Gln Ala Ala Met Leu
100 105 110

Pro Met Glu Asp Ala Glu Glu Glu Leu Ile Arg Leu Leu Gln Glu His
595 600 605
Gly Val Trp Lys Asp Pro Glu Glu Thr Lys Leu Thr Val
610 615 620

<210> 376
<211> 251
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0374

<400> 376
Val Asp Ser Met Thr Leu Ser Phe His Thr His Pro Leu Asn Tyr Trp
1 5 10 15
Thr Phe Glu Glu Phe Asp Gly Leu Pro Ile Arg His Gly Val Phe Ser
20 25 30
Lys Gln Lys Asp Ala Glu Gly Thr Val Phe Ala Ala Lys Asn Pro Glu
35 40 45
Ile Ala Ser Ala Leu Gln Ser Pro Lys Tyr Cys Asp Leu His Gln Arg
50 55 60
His Gly Thr Ser Val Arg Cys Val Thr Pro Thr Ser Pro Thr Tyr Gln
65 70 75 80
Pro Ala Asp Gly Leu Cys Thr Gln Ser Pro Leu Leu Ser Leu His Ile
85 90 95
Arg His Ser Asp Cys Gln Ala Ala Ile Phe Tyr Asp Arg Glu His His
100 105 110
Ala Ile Ala Asn Val His Ser Gly Trp Arg Gly Leu Leu Gly Asn Ile
115 120 125
Tyr Ala Val Thr Val Gly Thr Met Lys Lys Leu Phe His Thr Lys Pro
130 135 140
Gln Asp Leu Phe Val Ala Ile Gly Pro Ser Ile Gly Pro Asp Tyr Ala
145 150 155 160
Ile Tyr Pro Asp Tyr Ala Thr Leu Phe Pro Arg Ser Phe Leu Pro Phe
165 170 175
Met Asn Pro Lys Asn His Phe Asp Leu Arg Ala Ile Ala Arg Lys Gln
180 185 190
Leu Thr Asn Leu Gly Ile Ser Lys Asp Arg Ile Phe Ile Ser Asp Leu
195 200 205
Cys Thr Tyr Thr Glu His Asp Ala Phe Phe Ser Ser Arg Tyr Leu Ala
210 215 220
His His Pro Asp Pro Asn Leu Thr Gly Gln His Ser Lys Asn Arg Asn
225 230 235 240
Asn Val Thr Ala Val Leu Leu Leu Pro Arg Asp
245 250

<210> 377
<211> 168
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0375

<400> 377
Arg Leu Ser Met Lys Leu Gly Ala Ser Thr Asn His Lys Val His Glu
1 5 10 15
Pro Val Lys Pro Lys Lys Ala Gln Leu Ala Glu Ile Glu Ala Asn Lys
20 25 30

Thr Gln Ala Thr Glu Gly Thr Leu Arg Ser Lys Ser Leu Ala Leu Gln
 35 40 45
 Ile Ala Arg Ala Val Leu Tyr Ile Leu Phe Ala Ala Leu Met Leu Ala
 50 55 60
 Ala Gly Ile Thr Phe Val Thr Phe Leu Ala Leu Gly Phe Pro Leu Ile
 65 70 75 80
 Gln Ala Tyr Ser Ile Ala Gly Ile Ile Thr Leu Val Gly Leu Ala Ile
 85 90 95
 Gly Leu Val Leu Leu Ile Leu Ser Leu Leu Pro Lys Glu Asp Glu Glu
 100 105 110
 Ala Asp Ala Leu Ser Arg Asn Ala Leu Leu Pro Leu Thr Ile Ile Val
 115 120 125
 Ile Glu Gln Gln Pro Ile Thr Pro Lys Pro Glu Ile Pro Tyr Ser Tyr
 130 135 140
 Leu Thr Lys Leu Ala Leu Leu Thr Ser Leu Phe Leu Thr Leu Arg Arg
 145 150 155 160
 Ser Ser Ser Gln Arg Lys Thr His
 165

<210> 378
 <211> 205
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0376

<400> 378
 Phe Lys Val Val Thr Ala Lys Ala Pro Asn Leu Thr Glu Ile Arg Asp
 1 5 10 15
 His Gly Ala Arg Val Pro Ser Leu Phe Leu Leu Ser Pro Glu Thr Ser
 20 25 30
 His Trp Lys Gly Asp Lys Glu Val Ser Ala Pro Leu Lys Gln Leu Gln
 35 40 45
 Asp Leu Leu Gly Glu Glu Gln Trp Glu Ala Met Lys Thr Lys Met Asn
 50 55 60
 Ser Arg Lys Lys Ala Gly Gln Trp Ala Ile Phe Asn Ser Pro Thr Pro
 65 70 75 80
 Gly Val Ser Ser Thr Leu Val Leu Ala Trp Thr Pro Trp Gly Tyr Tyr
 85 90 95
 Asp Lys Asp Val Gln Asp Ile Leu Glu Arg Lys Asp Pro Met Ser Ser
 100 105 110
 Ser Leu Ser Glu Lys Asp Ser Lys Glu Phe Leu Lys Asn Leu Phe Val
 115 120 125
 Asp Leu Leu Glu Asn Gly Phe Thr Ser Val His Ile His Ala Glu Glu
 130 135 140
 Ala Phe Thr Pro Leu Asp His Thr Gly Lys Pro His Phe Lys Arg Asp
 145 150 155 160
 Asn Val Tyr Leu Pro Gly Lys Leu Leu Gly Ala Leu Asn Glu Ala Ala
 165 170 175
 Val Gln Ala Asn Val Ser Ala Asp Thr Gln Phe Thr Leu Phe Leu Thr
 180 185 190
 Gln Asp Glu Cys Asn Pro Phe His Asp Lys Lys Arg Gly
 195 200 205

<210> 379
 <211> 365
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0377

<400> 379

Ile Met Thr Thr Glu Val Arg Ile Pro Asn Ile Ala Glu Ser Ile Ser
1 5 10 15
Glu Val Thr Val Ala Ser Leu Leu Val Thr Glu Gly Ala Leu Ile Gln
20 25 30
Glu Asn Gln Gly Leu Leu Glu Ile Glu Ser Asp Lys Val Asn Gln Leu
35 40 45
Ile Tyr Ala Pro Val Ser Gly Arg Ile Phe Trp Glu Val Ser Glu Gly
50 55 60
Asp Val Val Pro Val Gly Gly Val Val Gly Lys Ile Glu Pro Ala Gly
65 70 75 80
Glu Gly Glu Glu Leu Gly Asp Ser Gln Ser Lys Glu Thr Ile Glu Ala
85 90 95
Glu Ile Ile Cys Phe Pro Gln Ser Gly Val Arg Gln Ser Pro Pro Glu
100 105 110
Asn Lys Thr Phe Ile Pro Leu Arg Asp Gln Met Asp Gln Gly Ser Gln
115 120 125
Gly Leu Ser Ala Gly Asp Arg Gly Glu Thr Arg Glu Arg Met Thr Ser
130 135 140
Ile Arg Lys Thr Ile Ser Arg Arg Leu Leu Ser Ala Leu His Glu Ser
145 150 155 160
Ala Met Leu Thr Thr Phe Asn Glu Val Tyr Met Thr Pro Leu Phe His
165 170 175
Leu Arg Lys Glu Lys Gln Glu Glu Phe Leu Ser Arg Tyr Gly Val Lys
180 185 190
Leu Gly Phe Met Ser Phe Phe Val Lys Ala Val Leu Glu Ala Leu Lys
195 200 205
Ala Tyr Pro Arg Val Asn Ala Tyr Ile Asp Gly Glu Glu Ile Val Tyr
210 215 220
Arg His Tyr Tyr Asp Ile Ser Ile Ala Val Gly Ile Asp Arg Gly Leu
225 230 235 240
Val Val Pro Val Ile Arg Asp Cys Asp Lys Leu Ser Asn Gly Glu Ile
245 250 255
Glu Gln Lys Leu Ala Asp Leu Ala Leu Arg Ala Arg Glu Gly Leu Leu
260 265 270
Ala Ile Ala Glu Leu Glu Gly Gly Gly Phe Thr Ile Thr Asn Gly Gly
275 280 285
Val Tyr Gly Ser Leu Leu Ser Thr Pro Ile Ile Asn Pro Pro Gln Val
290 295 300
Gly Ile Leu Gly Met His Lys Ile Glu Lys Arg Pro Val Val Leu Asp
305 310 315 320
Asn Glu Ile Val Ile Ala Asp Met Met Tyr Val Ala Leu Ser Tyr Asp
325 330 335
His Arg Leu Ile Asp Gly Lys Glu Ala Val Gly Phe Leu Val Lys Val
340 345 350
Lys Glu Gly Leu Glu Asn Pro Ala Ser Leu Leu Asp Leu
355 360 365

<210> 380

<211> 917

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0378

<400> 380

Ile	Val	Phe	Ile	Glu	Phe	Asn	Tyr	Phe	Met	Asp	Ser	Glu	Phe	Val	Gly
1			5						10					15	
Gln	Val	Tyr	Ser	Ser	Asp	Met	Asp	Trp	Ile	Glu	Ser	Met	Tyr	Gln	Arg
			20					25					30		
Phe	Met	Asn	His	Glu	Thr	Leu	Asp	Pro	Ser	Trp	Lys	Tyr	Phe	Phe	Glu
		35					40					45			
Gly	Tyr	Gln	Leu	Gly	Gln	Ala	Ala	Ser	Pro	Ser	Glu	Ala	Ser	Thr	Lys
	50					55					60				
Ile	Ser	Gly	Asn	Glu	Thr	Ile	Ala	Met	Leu	Gln	Glu	Gln	Lys	Ser	Gln
65					70					75					80
Phe	Leu	Cys	Thr	Ile	Tyr	Arg	Tyr	Tyr	Gly	Tyr	Leu	Gln	Ser	Gln	Ile
			85					90						95	
Ser	Thr	Leu	Ala	Pro	Thr	Thr	Asp	Ser	Arg	Phe	Ile	Gln	Glu	Lys	Ile
			100					105					110		
Ala	Lys	Ile	Asp	Leu	Asp	Glu	Gln	Val	Pro	Ser	Ala	Gly	Leu	Leu	Pro
		115					120					125			
Lys	Ala	Gln	Val	Ser	Val	Arg	Glu	Leu	Ile	Glu	Ala	Leu	Lys	Lys	Cys
	130					135					140				
Tyr	Cys	Gly	Ser	Leu	Thr	Leu	Glu	Thr	Leu	Thr	Cys	Thr	Pro	Glu	Leu
145					150					155					160
Gln	Glu	Phe	Val	Trp	Asn	Leu	Met	Glu	Lys	Arg	Gln	Val	Glu	Arg	Phe
				165					170					175	
Ala	Glu	Gln	Leu	Leu	Arg	Ser	Tyr	Lys	Asp	Leu	Cys	Lys	Ala	Thr	Phe
			180					185					190		
Phe	Glu	Glu	Phe	Leu	Gln	Ile	Lys	Phe	Thr	Gly	Gln	Lys	Arg	Phe	Ser
	195						200					205			
Leu	Glu	Gly	Gly	Glu	Thr	Leu	Val	Pro	Met	Leu	Glu	His	Leu	Val	His
	210					215					220				
Tyr	Gly	Ser	Ala	Leu	Gly	Ile	Ser	Asn	Tyr	Val	Leu	Gly	Met	Ala	His
225					230					235					240
Arg	Gly	Arg	Leu	Asn	Val	Leu	Thr	Asn	Val	Leu	Gly	Lys	Pro	Tyr	Arg
				245					250					255	
Tyr	Val	Phe	Met	Glu	Phe	Glu	Asp	Asp	Pro	Ala	Ala	Arg	Gly	Leu	Glu
			260					265					270		
Ser	Val	Gly	Asp	Val	Lys	Tyr	His	Lys	Gly	Tyr	Val	Leu	Lys	Ser	His
		275					280					285			
Gln	Lys	Asp	Arg	Glu	Thr	Thr	Phe	Val	Met	Leu	Pro	Asn	Ala	Ser	His
	290					295					300				
Leu	Glu	Ser	Val	Asp	Pro	Ile	Val	Glu	Gly	Val	Val	Ala	Ala	Leu	Gln
305					310					315					320
His	Gln	Gly	His	Ala	Gly	Lys	Glu	Gln	Ser	Ser	Leu	Ala	Ile	Leu	Val
				325					330					335	
His	Gly	Asp	Ala	Ala	Phe	Ser	Gly	Gln	Gly	Val	Val	Tyr	Glu	Thr	Leu
			340					345					350		
Gln	Leu	Ser	Arg	Val	Pro	Gly	Tyr	Ser	Thr	Glu	Gly	Thr	Leu	His	Ile
		355					360					365			
Val	Val	Asn	Asn	Tyr	Ile	Gly	Phe	Thr	Ala	Val	Pro	Arg	Glu	Ser	Arg
	370					375					380				
Ser	Thr	Pro	Tyr	Cys	Thr	Asp	Ile	Ala	Lys	Met	Leu	Gly	Ile	Pro	Val
385					390					395					400
Phe	Arg	Val	Asn	Ser	Glu	Asp	Val	Val	Ala	Cys	Ile	Glu	Ala	Ile	Glu
				405					410					415	
Tyr	Ala	Leu	Gln	Val	Arg	Glu	Arg	Phe	Ser	Cys	Asp	Val	Ile	Ile	Asp
			420					425					430		
Leu	Cys	Cys	Tyr	Arg	Lys	Tyr	Gly	His	Asn	Glu	Ser	Asp	Asp	Pro	Ser
		435					440					445			
Val	Thr	Ala	Pro	Leu	Leu	Tyr	Asp	Gln	Ile	Lys	Arg	Lys	Lys	Ser	Ile
	450					455					460				
Arg	Glu	Leu	Phe	Arg	Gln	Tyr	Leu	Leu	Glu	Gly	Gln	Phe	Ala	Asp	Ile
465					470					475					480

Ser Glu Glu Thr Leu Ala Ser Ile Glu Lys Glu Ile Gln Glu Ser Leu
 485 490 495
 Asn Arg Glu Phe Gln Val Leu Lys Gly Thr Asp Pro Glu Pro Phe Pro
 500 505 510
 Lys Lys Glu Cys His His Cys Asp Arg Leu Asn Asn Gly Glu Leu Ile
 515 520 525
 Leu His Asp Cys Asp Val Ser Leu Asp Arg Glu Thr Leu Phe His Met
 530 535 540
 Ser Ser Arg Leu Cys Gly Phe Pro Asp Asn Phe His Pro His Pro Lys
 545 550 555 560
 Ile Lys Thr Leu Leu Glu Lys Arg Met Lys Met Ala Glu Gly Gly Val
 565 570 575
 Gly Tyr Asp Trp Ala Met Ala Glu Glu Leu Ala Phe Ala Ser Leu Leu
 580 585 590
 Ile Glu Gly Tyr Asn Leu Arg Leu Ser Gly Gln Asp Ser Ile Arg Gly
 595 600 605
 Thr Phe Ser Gln Arg His Leu Val Trp Ser Asp Thr Val Thr Gly Asp
 610 615 620
 Thr Tyr Ser Pro Leu Tyr His Leu Ser Ala Glu Gln Gly Ser Val Glu
 625 630 635 640
 Met Tyr Asn Ser Pro Leu Ser Glu Tyr Ala Ile Leu Gly Phe Glu Tyr
 645 650 655
 Gly Tyr Ala Gln Gln Ala Leu Lys Thr Leu Val Leu Trp Glu Ala Gln
 660 665 670
 Phe Gly Asp Phe Ala Asn Gly Ala Gln Ile Ile Phe Asp Gln Tyr Ile
 675 680 685
 Ser Ser Gly Ile Gln Lys Trp Asp Leu His Ser Asp Ile Val Leu Leu
 690 695 700
 Leu Pro His Gly Tyr Glu Gly Gln Gly Pro Glu His Ser Ser Ser Arg
 705 710 715 720
 Ile Glu Arg Tyr Leu Gln Leu Ala Ala Asn Trp Asn Phe Gln Val Val
 725 730 735
 Leu Pro Ser Thr Pro Val Gln Tyr Phe Arg Ile Leu Arg Glu His Ala
 740 745 750
 Lys Arg Asp Leu Ser Leu Pro Leu Val Ile Phe Thr Pro Lys Leu Leu
 755 760 765
 Leu Arg Tyr Pro Gln Cys Val Ser Ser Ile Glu Glu Phe Thr Glu Pro
 770 775 780
 Gly Gly Phe Arg Ala Ile Leu Glu Asp Ala Asp Pro Asn Tyr Asp Ala
 785 790 795 800
 Ser Ile Leu Val Leu Cys Ser Gly Lys Ile Tyr Tyr Asp Tyr Ala Glu
 805 810 815
 Met Leu Pro Gln Asp Arg Arg Lys Asp Phe Ser Cys Leu Arg Ile Glu
 820 825 830
 Ser Leu Tyr Pro Leu Ala Leu Glu Asp Leu Val Ser Leu Ile Asp Lys
 835 840 845
 Tyr Ser His Leu Lys His Phe Val Trp Leu Gln Glu Glu Ser Lys Asn
 850 855 860
 Met Gly Ala Tyr Asp Tyr Met Phe Met Ala Leu Gln Asp Ile Leu Pro
 865 870 875 880
 Glu Lys Leu Leu Tyr Ile Gly Arg Pro Arg Ser Ser Ser Thr Ala Ser
 885 890 895
 Gly Ser Ala Lys Leu Ser Arg Gln Glu Leu Val Thr Cys Met Glu Thr
 900 905 910
 Leu Phe Ser Leu Arg
 915

<210> 381

<211> 166

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0379

<400> 381

Lys Asn Lys Lys Met Leu Cys Thr Cys Ser Arg Ile Gln Asp Gly Asn
1 5 10 15
Pro Trp Met Lys Ser Glu Arg Leu Lys Lys Leu Glu Ser Glu Leu His
20 25 30
Asp Leu Thr Gln Trp Met Gln Leu Gly Leu Val Pro Lys Lys Glu Ile
35 40 45
Ser Arg His Gln Glu Glu Ile Arg Ile Leu Glu His Lys Ile Tyr Glu
50 55 60
Glu Lys Glu Arg Leu Gln Leu Leu Lys Glu Asn Gly Glu Ile Glu Glu
65 70 75 80
Tyr Val Thr Pro Arg Arg Ser Pro Ala Lys Thr Val Tyr Pro Asp Gly
85 90 95
Pro Ser Met Ser Asp Ile Glu Phe Val Glu Pro Thr Glu Thr Glu Ile
100 105 110
Asp Ile Asp Pro Gly Glu Thr Val Glu Leu Glu Leu Thr Asp Glu Gly
115 120 125
Arg Glu Asp Gly Ala Val Glu Val Asp Tyr Ser His Glu Asp Asp Glu
130 135 140
Asp Pro Phe Ser Asp Arg Asn Arg Trp Arg Arg Gly Gly Ile Ile Asp
145 150 155 160
Pro Asp Ala Asn Glu Trp
165

<210> 382

<211> 402

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0380

<400> 382

Lys Ser Thr Ile Pro Thr Lys Thr Met Lys Thr Leu Ser Ala Ile Ala
1 5 10 15
Ile Ala Gly Asp Ala Val Val Ser Leu Ile Pro Met Leu Met Asn Gly
20 25 30
Lys Ala Pro Leu Ala Leu Tyr Ile His Ile Pro Phe Cys Thr Lys Lys
35 40 45
Cys Arg Tyr Cys Ser Phe Tyr Thr Ile Pro Tyr Lys Ser Glu Ser Val
50 55 60
Ser Leu Tyr Cys Asn Ala Val Ile Gln Glu Gly Leu Arg Lys Leu Ala
65 70 75 80
Pro Ile Gln Glu Thr His Phe Ile Glu Thr Val Phe Phe Gly Gly Gly
85 90 95
Thr Pro Ser Leu Val Ser Pro Leu Asp Leu Lys Arg Ile Leu Lys Glu
100 105 110
Leu Ala Pro His Ala Arg Glu Ile Thr Leu Glu Ala Asn Pro Glu Asn
115 120 125
Leu Thr Val Ser Tyr Leu Arg Gln Leu Gln Glu Thr Pro Ile Asn Arg
130 135 140
Ile Ser Val Gly Val Gln Thr Phe Asp Asp Ser Ile Leu Gln Leu Leu
145 150 155 160
Gly Arg Thr His Ser Ser Ser Ala Ala Ile Thr Ala Leu Gln Glu Cys
165 170 175
Gln Asn His Gly Phe Ser Asn Leu Ser Ile Asp Leu Ile Tyr Gly Leu
180 185 190

Pro Thr Gln Ser Leu Glu Ile Phe Leu Ser Asp Leu His Gln Ala Leu
 195 200 205
 Thr Leu Pro Ile Thr His Ile Ser Leu Tyr Asn Leu Thr Ile Asp Pro
 210 215 220
 His Thr Ser Phe Tyr Lys His Arg Lys Ile Leu Val Pro Thr Ile Ala
 225 230 235 240
 Gln Glu Glu Ile Leu Ala Glu Met Ser Leu Leu Ala Glu Asn Leu Leu
 245 250 255
 Leu Ser Gln Gly Phe Gln Arg Tyr Glu Leu Ala Ser Tyr Ala Lys Pro
 260 265 270
 Asp Tyr Pro Ala Lys His Asn Leu Tyr Tyr Trp Thr Asp Arg Pro Phe
 275 280 285
 Leu Gly Leu Gly Val Ser Ala Ser Gln Tyr Leu His Gly Glu Arg Ser
 290 295 300
 Lys Asn Tyr Ser His Ile Ser His Tyr Leu Arg Ala Val Arg Lys Asn
 305 310 315 320
 Leu Pro Thr Gln Glu Thr Ser Glu Ile Leu Pro Lys Lys Glu Arg Ile
 325 330 335
 Lys Glu Ala Leu Ala Leu Arg Leu Arg Leu Leu Glu Gly Ala Asp Leu
 340 345 350
 Ala Glu Phe Pro Ser Thr Leu Ile Ser Met Leu Thr Gln Asp Val Lys
 355 360 365
 Leu Gln Asn Leu Phe Ser Val His Gly Gln Cys Leu Ala Leu Asn Arg
 370 375 380
 Gln Gly Arg Leu Phe His Asp Thr Ile Ala Glu Glu Ile Met Gly Tyr
 385 390 395 400
 Ser Phe

<210> 383
 <211> 600
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0381

<400> 383
 Ser Leu Pro Asn Lys Phe Arg Ala Leu Met Thr Ala Pro Thr Glu Ser
 1 5 10 15
 Arg Ser Ser Pro Pro Thr Leu Leu Glu Thr Glu Pro Leu Ser Pro
 20 25 30
 Asn Pro Ile Pro Ala Asp Ile Gln Ile Pro Arg Ile Thr Ile Ser Pro
 35 40 45
 Pro Ser Leu Asp Val Ser Thr Val Ala Ser Ser Ala Glu Asp Ile Ser
 50 55 60
 Val Phe Ile Ala Gly Gly Pro Arg Ser Ser Ser Ala Ser Val Ala
 65 70 75 80
 Ser Asp Val Tyr Glu Leu Val Cys Leu Cys Gly Gly Asp Glu Asp Pro
 85 90 95
 Glu Pro Pro Asp Ser Glu Val Arg Thr Leu Tyr Val Asn Gly Ser Trp
 100 105 110
 Gln Thr His Gln Glu Ala Val Gln Glu Leu Leu Tyr Ile Ser Glu Val
 115 120 125
 Arg Gly Glu Ala Val Arg Leu Leu Tyr Asn Asp Gly Ser Gly Met Ser
 130 135 140
 Pro Trp Pro Ile Ser Pro Cys Arg Thr Leu Pro Thr Leu Asp His Pro
 145 150 155 160
 Leu Cys Gln Ala Leu Leu Thr Val Trp Glu Gln Phe Phe Ser Ala Pro
 165 170 175

Glu Asn Gln Asn Arg Glu Phe Leu Val Ile Phe Tyr Gly Asp Ala Ser
 180 185 190
 Pro Tyr Ile Gln Gln Ala Leu Thr Gln Ser Arg His Ser Pro Arg Ile
 195 200 205
 Val Val Val Gly Ile Ser Pro Thr Val Phe Ile Gln Gly Asp Phe Arg
 210 215 220
 Val His Asn Tyr Arg Val Ser Gly Asp Phe Phe Ser Ser Leu Asp Cys
 225 230 235 240
 Arg Gly Thr Arg Ala Glu Asn Thr Thr Ile Leu Pro Tyr Ser Ser Gly
 245 250 255
 Leu Glu Gly Val Phe Leu Pro Ser Ile Arg Cys Pro Ser Phe Thr Trp
 260 265 270
 Ala Val Arg Phe Gly Glu Gln Cys Leu Val Ala Asn Arg Gly Glu Asp
 275 280 285
 Val Glu Asp Arg Gly Gly Leu Ser Gln Asp Ala Glu Arg Ser Gln Leu
 290 295 300
 Pro His Ser Glu Arg Asp Leu Ala Val Val Ile Asp Ser Thr Asp Pro
 305 310 315 320
 Ser Ser Met Ser Arg Leu Val Glu Trp Leu Asn Gln Gly Ser Pro Ser
 325 330 335
 Ser Asp Met Glu Ile Asn Pro Tyr Pro Gln Arg Cys Pro Asp Val Ala
 340 345 350
 Leu Ser Ala Leu Tyr Ala Ile Ser Arg Val Ser Gly Leu Ala Gln Glu
 355 360 365
 Trp Ile Leu Ala Ser Val His Glu Gly Leu Asp Leu Gln Ile Cys Tyr
 370 375 380
 Ser Leu Ile Leu Met His Thr Thr Phe Ala Val Arg Tyr Phe Phe Leu
 385 390 395 400
 Leu Phe Thr Asn Tyr Pro Gln Ser Arg Glu Arg Phe Arg Thr Ala Arg
 405 410 415
 Ile Val Ala Gln Ser Leu Tyr Leu Pro Ser Ile Leu Val Leu Val Phe
 420 425 430
 Asp Cys Gly Asn Val Leu Arg Lys Leu Trp Met Pro Gln Glu Ile Leu
 435 440 445
 Arg Ala Ile Phe Ile Ser Ala Ser Thr Ile Ser Gly Ser Ile Val Phe
 450 455 460
 Val Glu Cys Thr Arg Trp Met Gly Arg Gly Leu Arg His Arg Val Gln
 465 470 475 480
 Gln Phe Val Gln Gln Arg Val Ile Gly Ser Gly Leu Pro Val Gly Thr
 485 490 495
 Val Arg Ala Ser Tyr Arg Asp Arg Ala Gly Phe Ile Ile Gly Phe Leu
 500 505 510
 Gln Thr Val His Gly Gly Leu Tyr Leu Pro Val Ser Ile Met Val Leu
 515 520 525
 Asn Gln Ile Ala Ile Gln Val Pro Arg Ile Leu Val Arg Pro Asn Asn
 530 535 540
 Thr Ala Val Tyr Asp Leu His Asn Lys Ser Ala Glu Glu Asn Trp Ser
 545 550 555 560
 Ser Gly Asp Val Leu Ala Val Gly Gln Thr Leu Asn Phe Ile Leu Cys
 565 570 575
 Ala Phe Val Leu Phe Val Asn Leu Trp Phe Phe Val Lys Ser Val Leu
 580 585 590
 Arg His Ser Arg Arg Arg Arg Arg
 595 600

<210> 384
 <211> 239
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0382

<400> 384

Pro Val Thr Leu Tyr Leu Leu Pro Asn Thr Leu Gly Thr Arg Ala Val
1 5 10 15
Glu Thr Leu Pro Ser Val Ile Gly Glu Leu Val His Arg Leu Asp Gly
20 25 30
Leu Ile Val Glu Ser Asp Arg Gly Gly Arg Ala Phe Leu Ser Leu Trp
35 40 45
Lys Ile Pro Glu Val His Lys Phe Pro Leu Ala Ile Leu Ser Lys His
50 55 60
Ala Arg Leu Pro Lys Ala Trp Asp Phe Tyr Leu Glu Pro Ile Val Lys
65 70 75 80
His Gly Glu Asn Trp Gly Leu Ile Ser Asp Ala Gly Leu Pro Cys Ile
85 90 95
Ala Asp Pro Gly Ala Ser Leu Val Arg Arg Ala Arg Ala Leu Gly Ile
100 105 110
Pro Val Gln Ala Phe Ser Gly Pro Cys Ser Ile Thr Leu Ala Leu Met
115 120 125
Leu Ser Gly Leu Pro Ser Gln Ser Phe Thr Phe Leu Gly Tyr Leu Pro
130 135 140
Gln Ser Pro Lys Glu Arg Val Lys Ser Ile Lys Lys Ala Ala Thr Ser
145 150 155 160
Lys Glu Val Ser Thr Ser Val Cys Ile Glu Thr Ser Tyr Arg Asn Val
165 170 175
Tyr Thr Phe Glu Ser Leu Leu Asp Thr Leu Pro Ser Tyr Ala Glu Leu
180 185 190
Cys Val Ala Ser Asp Leu Ser Gly Pro Ser Glu Leu Val Leu Thr Arg
195 200 205
Gln Val Gln Ser Trp Arg Thr Thr Glu Asp Leu Gly Ser Val Lys Gln
210 215 220
Ser Ile Thr Lys Val Pro Thr Ile Phe Leu Phe His Ile Pro Asn
225 230 235

<210> 385

<211> 321

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0383

<400> 385

Val Gln Asp Thr Thr Phe Leu Thr Leu Pro Met Gln Lys Ser Leu Thr
1 5 10 15
Ser Phe Asp Asp Phe Ser Gln Ala Tyr Ala Glu Lys Val Pro Ala Ile
20 25 30
Ala Leu Ile Gly Ser Ala Leu Glu Asp Asp Lys Asp Ala Leu Ile Glu
35 40 45
Leu Leu Val Ser Glu Ser Phe Lys Glu Leu Gly Gly Gln Gly Leu Met
50 55 60
Pro Ala Thr Leu Met Ser Trp Thr Glu Thr Phe Ala Leu Phe Gln Glu
65 70 75 80
His Glu Thr Leu Gly Ile Ile His Ala Glu Lys Phe Pro Leu Ala Thr
85 90 95
Lys Glu Phe Leu Ser Arg Tyr Ala Arg Asn Pro Gln Pro His Leu Thr
100 105 110
Ile Leu Ile Phe Thr Thr Lys Gln Glu Cys Phe Arg Glu Leu Ser Lys
115 120 125

Ala Leu Pro Ser Ala Leu Ser Leu Ser Leu Phe Gly Glu Trp Pro Ala
 130 135 140
 Asp Arg Gln Lys Arg Ile Ile Arg Leu Leu Leu Gln Arg Ala Glu Arg
 145 150 155 160
 Val Gly Ile Ser Cys Ser Gln Ser Leu Ala Ser Leu Phe Leu Arg Ala
 165 170 175
 Leu Ala Ser Thr Ser Leu Pro Asp Ile Leu Ser Glu Phe Asp Lys Leu
 180 185 190
 Leu Cys Ser Val Gly Lys Lys Thr Ser Leu Asp His Ser Asp Ile Lys
 195 200 205
 Glu Leu Val Val Lys Lys Glu Lys Ala Ser Leu Trp Lys Phe Arg Asp
 210 215 220
 Ser Leu Leu Lys Arg Asp Pro Val Glu Gly His Gln Gln Leu His Phe
 225 230 235 240
 Leu Leu Glu Asp Gly Glu Asp Pro Leu Gly Ile Ile Thr Phe Leu Arg
 245 250 255
 Thr Gln Cys Leu Tyr Gly Leu Arg Ser Ile Glu Glu Gly Ser Lys Glu
 260 265 270
 Asn Lys His Arg Met Phe Val Leu Tyr Gly Lys Glu Arg Leu His Gln
 275 280 285
 Ala Leu Asn Ser Leu Phe Tyr Ala Glu Thr Leu Ile Lys Asn Asn Val
 290 295 300
 Gln Asp Pro Ile Val Ala Val Glu Thr Leu Val Ile Arg Met Val Asn
 305 310 315 320
 Leu

<210> 386
 <211> 182
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0384

<400> 386
 Val Ile Thr Cys Leu Ile Arg Gly Ile Lys Met Ile Gly Ala Gln Lys
 1 5 10 15
 Lys Gln Ser Gly Lys Lys Thr Ala Ser Arg Ala Val Arg Lys Pro Ala
 20 25 30
 Lys Lys Val Ala Ala Lys Arg Thr Val Lys Lys Ala Thr Val Arg Lys
 35 40 45
 Thr Ala Val Lys Lys Pro Ala Val Arg Lys Thr Ala Ala Lys Lys Thr
 50 55 60
 Val Ala Lys Lys Thr Thr Ala Lys Arg Thr Val Arg Lys Thr Val Ala
 65 70 75 80
 Lys Lys Pro Ala Val Lys Lys Val Ala Ala Lys Arg Val Val Lys Lys
 85 90 95
 Thr Val Ala Lys Lys Thr Thr Ala Lys Arg Ala Val Arg Lys Thr Val
 100 105 110
 Ala Lys Lys Pro Val Ala Arg Lys Thr Thr Val Ala Lys Gly Ser Pro
 115 120 125
 Lys Lys Ala Ala Ala Cys Ala Leu Ala Cys His Lys Asn His Lys His
 130 135 140
 Thr Ser Ser Cys Lys Arg Val Cys Ser Ser Thr Ala Thr Arg Lys His
 145 150 155 160
 Gly Ser Lys Ser Arg Val Arg Thr Ala His Gly Trp Arg His Gln Leu
 165 170 175
 Ile Lys Met Met Ser Arg
 180

<210> 387
 <211> 507
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0385

<400> 387
 Phe Leu Val Ile Lys Gly Glu Phe Val Val Leu Phe His Ala Gln Ala
 1 5 10 15
 Ser Gly Arg Asn Arg Val Lys Ala Asp Ala Ile Val Leu Pro Phe Trp
 20 25 30
 His Phe Lys Asp Ala Lys Asn Ala Ala Ser Phe Glu Ala Glu Phe Glu
 35 40 45
 Pro Ser Tyr Leu Pro Ala Leu Glu Asn Phe Gln Gly Lys Thr Gly Glu
 50 55 60
 Ile Glu Leu Leu Tyr Ser Ser Pro Lys Ala Lys Glu Lys Arg Ile Val
 65 70 75 80
 Leu Leu Gly Leu Gly Lys Asn Glu Glu Leu Thr Ser Asp Val Val Phe
 85 90 95
 Gln Thr Tyr Ala Thr Leu Thr Arg Val Leu Arg Lys Ala Lys Cys Ser
 100 105 110
 Thr Val Asn Ile Ile Leu Pro Thr Ile Ser Glu Leu Arg Leu Ser Ala
 115 120 125
 Glu Glu Phe Leu Val Gly Leu Ser Ser Gly Ile Leu Ser Leu Asn Tyr
 130 135 140
 Asp Tyr Pro Arg Tyr Asn Lys Val Asp Arg Asn Leu Glu Thr Pro Leu
 145 150 155 160
 Ser Lys Val Thr Val Ile Gly Ile Val Pro Lys Met Ala Asp Ala Ile
 165 170 175
 Phe Arg Lys Glu Ala Ala Ile Phe Glu Gly Val Tyr Leu Thr Arg Asp
 180 185 190
 Leu Val Asn Arg Asn Ala Asp Glu Ile Thr Pro Lys Lys Leu Ala Glu
 195 200 205
 Val Ala Leu Asn Leu Gly Lys Glu Phe Pro Ser Ile Asp Thr Lys Val
 210 215 220
 Leu Gly Lys Asp Ala Ile Ala Lys Glu Lys Met Gly Leu Leu Leu Ala
 225 230 235 240
 Val Ser Lys Gly Ser Cys Val Asp Pro His Phe Ile Val Val Arg Tyr
 245 250 255
 Gln Gly Arg Pro Lys Ser Lys Asp His Thr Val Leu Ile Gly Lys Gly
 260 265 270
 Val Thr Phe Asp Ser Gly Gly Leu Asp Leu Lys Pro Gly Lys Ser Met
 275 280 285
 Leu Thr Met Lys Glu Asp Met Ala Gly Gly Ala Thr Val Leu Gly Ile
 290 295 300
 Leu Ser Ala Leu Ala Val Leu Glu Leu Pro Ile Asn Val Thr Gly Ile
 305 310 315 320
 Ile Pro Ala Thr Glu Asn Ala Ile Asp Gly Ala Ser Tyr Lys Met Gly
 325 330 335
 Asp Val Tyr Val Gly Met Ser Gly Leu Ser Val Glu Ile Cys Ser Thr
 340 345 350
 Asp Ala Glu Gly Arg Leu Ile Leu Ala Asp Ala Ile Thr Tyr Ala Leu
 355 360 365
 Lys Tyr Cys Lys Pro Thr Arg Ile Ile Asp Phe Ala Thr Leu Thr Gly
 370 375 380
 Ala Met Val Val Ser Leu Gly Glu Glu Val Ala Gly Phe Phe Ser Asn
 385 390 395 400
 Asn Asp Val Leu Ala Glu Asp Leu Leu Glu Ala Ser Ala Glu Thr Ser
 405 410 415

Glu Pro Leu Trp Arg Leu Pro Leu Val Lys Lys Tyr Asp Lys Thr Leu
 420 425 430
 His Ser Asp Ile Ala Asp Met Lys Asn Leu Gly Ser Asn Arg Ala Gly
 435 440 445
 Ala Ile Thr Ala Ala Leu Phe Leu Gln Arg Phe Leu Glu Glu Ser Ser
 450 455 460
 Val Ala Trp Ala His Leu Asp Ile Ala Gly Thr Ala Tyr His Glu Lys
 465 470 475 480
 Glu Glu Asp Arg Tyr Pro Lys Tyr Ala Ser Gly Phe Gly Val Arg Ser
 485 490 495
 Ile Leu Tyr Tyr Leu Glu Asn Ser Leu Ser Lys
 500 505

<210> 388
 <211> 166
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0386

<400> 388
 Lys Ser Lys Gly Tyr Leu Met Met Phe Gly His Phe Ala Gly Tyr Leu
 1 5 10 15
 Gly Ala Asp Pro Glu Glu Arg Met Thr Ser Lys Gly Lys Arg Val Ile
 20 25 30
 Thr Leu Arg Leu Gly Val Lys Thr Arg Val Gly Met Lys Asp Glu Thr
 35 40 45
 Val Trp Cys Lys Cys Asn Ile Trp His Asn Arg Tyr Asp Lys Met Leu
 50 55 60
 Pro Tyr Leu Lys Lys Gly Ser Gly Val Ile Val Ala Gly Asp Ile Ser
 65 70 75 80
 Val Glu Ser Tyr Met Ser Lys Asp Gly Ser Pro Gln Ser Ser Leu Val
 85 90 95
 Ile Ser Val Asp Ser Leu Lys Phe Ser Pro Phe Gly Arg Asn Glu Gly
 100 105 110
 Ser Arg Ser Pro Ser Leu Glu Asp Asn His Gln Gln Val Gly Tyr Glu
 115 120 125
 Ser Val Ser Val Gly Phe Glu Gly Glu Ala Leu Asp Ala Glu Ala Ile
 130 135 140
 Lys Asp Lys Asp Met Tyr Ala Gly Tyr Gly Gln Glu Gln Gln Tyr Val
 145 150 155 160
 Cys Glu Asp Val Pro Phe
 165

<210> 389
 <211> 177
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0387

<400> 389
 Asn Asn Asn Asn Leu Leu Gln Gly Asp Ser Leu Met Ser Arg Gln Asn
 1 5 10 15
 Ala Glu Glu Asn Leu Lys Asn Phe Ala Lys Glu Leu Lys Leu Pro Asp
 20 25 30
 Val Ala Phe Asp Gln Asn Asn Thr Cys Ile Leu Phe Val Asp Gly Glu
 35 40 45

Phe Ser Leu His Leu Thr Tyr Glu Glu His Ser Asp Arg Leu Tyr Val
 50 55 60
 Tyr Ala Pro Leu Leu Asp Gly Leu Pro Asp Asn Thr Gln Arg Lys Leu
 65 70 75 80
 Ala Leu Tyr Glu Lys Leu Leu Glu Gly Ser Met Leu Gly Gly Gln Met
 85 90 95
 Ala Gly Gly Gly Val Gly Val Ala Thr Lys Glu Gln Leu Ile Leu Met
 100 105 110
 His Cys Val Leu Asp Met Lys Tyr Ala Glu Thr Asn Leu Leu Lys Ala
 115 120 125
 Phe Ala Gln Leu Phe Ile Glu Thr Val Val Lys Trp Arg Thr Val Cys
 130 135 140
 Ala Asp Ile Cys Ala Gly Arg Glu Pro Ser Val Asp Thr Met Pro Gln
 145 150 155 160
 Met Pro Gln Gly Gly Gly Gly Met Gln Pro Pro Pro Thr Gly Ile Arg
 165 170 175
 Ala

<210> 390
 <211> 666
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0388

<400> 390
 Ser Thr Met Glu Lys Val Ser Ser Tyr Pro Ser Val Pro Leu Pro Leu
 1 5 10 15
 Gly Ala Ser Lys Ile Ser Pro Asn Arg Tyr Arg Phe Ala Leu Tyr Ala
 20 25 30
 Ser Gln Ala Thr Glu Val Ile Leu Ala Leu Thr Asp Glu Asn Ser Glu
 35 40 45
 Val Ile Glu Val Pro Leu Tyr Pro Asp Thr His Arg Thr Gly Ala Ile
 50 55 60
 Trp His Ile Glu Ile Glu Gly Ile Ser Asp Gln Ser Ser Tyr Ala Phe
 65 70 75 80
 Arg Val His Gly Pro Lys Lys His Gly Met Gln Tyr Ser Phe Lys Glu
 85 90 95
 Tyr Leu Ala Asp Pro Tyr Ala Lys Asn Ile His Ser Pro Gln Ser Phe
 100 105 110
 Gly Ser Arg Lys Lys Gln Gly Asp Tyr Ala Phe Cys Tyr Leu Lys Glu
 115 120 125
 Glu Pro Phe Pro Trp Asp Gly Asp Gln Pro Leu His Leu Pro Lys Glu
 130 135 140
 Glu Met Ile Ile Tyr Glu Met His Val Arg Ser Phe Thr Gln Ser Ser
 145 150 155 160
 Ser Ser Arg Val His Ala Pro Gly Thr Phe Leu Gly Ile Ile Glu Lys
 165 170 175
 Ile Asp His Leu His Lys Leu Gly Ile Asn Ala Val Glu Leu Leu Pro
 180 185 190
 Ile Phe Glu Phe Asp Glu Thr Ala His Pro Phe Arg Asn Ser Lys Phe
 195 200 205
 Pro Tyr Leu Cys Asn Tyr Trp Gly Tyr Ala Pro Leu Asn Phe Phe Ser
 210 215 220
 Pro Cys Arg Arg Tyr Ala Tyr Ala Ser Asp Pro Cys Ala Pro Ser Arg
 225 230 235 240
 Glu Phe Lys Thr Leu Val Lys Thr Leu His Gln Glu Gly Ile Glu Val
 245 250 255

Ile Leu Asp Val Val Phe Asn His Thr Gly Leu Gln Gly Thr Thr Cys
 260 265 270
 Ser Leu Pro Trp Ile Asp Thr Pro Ser Tyr Tyr Ile Leu Asp Ala Gln
 275 280 285
 Gly His Phe Thr Asn Tyr Ser Gly Cys Gly Asn Thr Leu Asn Thr Asn
 290 295 300
 Arg Ala Pro Thr Thr Gln Trp Ile Leu Asp Ile Leu Arg Tyr Trp Val
 305 310 315 320
 Glu Glu Met His Val Asp Gly Phe Arg Phe Asp Leu Ala Ser Val Phe
 325 330 335
 Ser Arg Gly Pro Ser Gly Ser Pro Leu Gln Phe Ala Pro Val Leu Glu
 340 345 350
 Ala Ile Ser Phe Asp Pro Leu Leu Ala Ser Thr Lys Ile Ile Ala Glu
 355 360 365
 Pro Trp Asp Ala Gly Gly Leu Tyr Gln Val Gly Tyr Phe Pro Thr Leu
 370 375 380
 Ser Pro Arg Trp Ser Glu Trp Asn Gly Pro Tyr Arg Asp Asn Val Lys
 385 390 395 400
 Ala Phe Leu Asn Gly Asp Gln Asn Leu Ile Gly Thr Phe Ala Ser Arg
 405 410 415
 Ile Ser Gly Ser Gln Asp Ile Tyr Pro His Gly Ser Pro Thr Asn Ser
 420 425 430
 Ile Asn Tyr Val Ser Cys His Asp Gly Phe Thr Leu Cys Asp Thr Val
 435 440 445
 Thr Tyr Asn His Lys His Asn Glu Ala Asn Gly Glu Asp Asn Arg Asp
 450 455 460
 Gly Thr Asp Ala Asn Tyr Ser Tyr Asn Phe Gly Thr Glu Gly Lys Thr
 465 470 475 480
 Glu Asp Pro Gly Ile Leu Glu Val Arg Glu Arg Gln Leu Arg Asn Phe
 485 490 495
 Phe Leu Thr Leu Met Val Ser Gln Gly Ile Pro Met Ile Gln Ser Gly
 500 505 510
 Asp Glu Tyr Ala His Thr Ala Glu Gly Asn Asn Asn Arg Trp Ala Leu
 515 520 525
 Asp Ser Asn Ala Asn Tyr Phe Leu Trp Asp Gln Leu Thr Ala Lys Pro
 530 535 540
 Thr Leu Met His Phe Leu Cys Asp Leu Ile Ala Phe Arg Lys Lys Tyr
 545 550 555 560
 Lys Thr Leu Phe Asn Arg Gly Phe Leu Ser Asn Lys Glu Ile Ser Trp
 565 570 575
 Val Asp Ala Met Gly Asn Pro Met Thr Trp Arg Pro Gly Asn Phe Leu
 580 585 590
 Ala Phe Lys Ile Lys Ser Pro Lys Ala His Val Tyr Val Ala Phe His
 595 600 605
 Val Gly Ala Gln Asp Gln Leu Ala Thr Leu Pro Lys Ala Ser Ser Asn
 610 615 620
 Phe Leu Pro Tyr Gln Ile Val Ala Glu Ser Gln Gln Gly Phe Val Pro
 625 630 635 640
 Gln Asn Val Ala Thr Pro Thr Val Ser Leu Gln Pro His Thr Thr Leu
 645 650 655
 Ile Ala Ile Ser His Ala Lys Glu Val Thr
 660 665

<210> 391
 <211> 312
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0389

<400> 391

Thr	Val	Phe	Asn	Phe	Lys	Arg	Phe	Tyr	Gln	Lys	Asp	Ser	Gln	Arg	Gln
1				5					10					15	
Asn	Gly	Asn	Thr	Thr	Cys	Leu	Arg	Pro	Phe	Lys	Lys	Thr	Cys	Lys	Glu
			20					25					30		
Leu	Ile	Glu	Phe	Arg	Arg	Arg	Thr	Val	Lys	Leu	Leu	Lys	Asn	Val	Leu
		35					40					45			
Leu	Gly	Leu	Phe	Phe	Ser	Met	Ser	Ile	Ser	Gly	Phe	Ser	Glu	Val	Lys
	50					55					60				
Val	Ser	Asp	Thr	Phe	Val	Lys	Gln	Asp	Thr	Val	Val	Glu	Pro	Lys	Ile
65					70					75				80	
Arg	Val	Leu	Leu	Ser	Asn	Glu	Ser	Thr	Thr	Ala	Leu	Ile	Glu	Ala	Lys
				85					90					95	
Gly	Pro	Tyr	Arg	Ile	Tyr	Gly	Asp	Asn	Val	Leu	Leu	Asp	Thr	Ala	Ile
			100					105						110	
Gln	Gly	Gln	Arg	Cys	Val	Val	His	Ala	Leu	Tyr	Glu	Gly	Ile	Arg	Trp
		115					120					125			
Gly	Glu	Phe	Tyr	Pro	Gly	Leu	Gln	Cys	Leu	Lys	Ile	Glu	Pro	Val	Asp
	130					135					140				
Asp	Thr	Ala	Ser	Leu	Phe	Asn	Gly	Ile	Gln	Tyr	Gln	Gly	Ser	Leu	
145					150				155					160	
Tyr	Val	His	Arg	Lys	Asp	Asn	His	Cys	Ile	Met	Val	Ser	Asn	Glu	Val
				165					170					175	
Thr	Ile	Glu	Asp	Tyr	Leu	Lys	Ser	Val	Leu	Ser	Ile	Lys	Tyr	Leu	Glu
			180					185					190		
Glu	Leu	Asp	Lys	Glu	Ala	Leu	Ser	Ala	Cys	Ile	Ile	Leu	Glu	Arg	Thr
		195					200					205			
Ala	Leu	Tyr	Glu	Lys	Leu	Leu	Ala	Arg	Asn	Pro	Gln	Asn	Phe	Trp	His
	210					215					220				
Val	Lys	Ala	Glu	Glu	Glu	Gly	Tyr	Ala	Gly	Phe	Gly	Val	Thr	Lys	Gln
225					230					235				240	
Phe	Tyr	Gly	Val	Glu	Glu	Ala	Ile	Asp	Trp	Thr	Ala	Arg	Leu	Val	Val
				245					250					255	
Asp	Ser	Pro	Gln	Gly	Leu	Ile	Ile	Asp	Ala	Gln	Gly	Leu	Leu	Gln	Ser
			260					265					270		
Asn	Val	Asp	Arg	Leu	Ala	Ile	Glu	Gly	Phe	Asn	Ala	Arg	Gln	Ile	Leu
		275					280					285			
Glu	Lys	Phe	Tyr	Lys	Asp	Val	Asp	Phe	Val	Val	Ile	Glu	Ser	Trp	Asn
	290					295					300				
Glu	Glu	Leu	Asp	Gly	Glu	Ile	Arg								
305					310										

<210> 392
 <211> 346
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0390

<400> 392

Arg	Lys	Ser	Asp	Arg	Glu	Gly	Ser	Tyr	Met	Thr	His	Gln	Val	Ala	Val
1				5					10					15	
Leu	His	Gln	Asp	Lys	Lys	Phe	Asp	Val	Ser	Leu	Arg	Pro	Lys	Gly	Leu
			20					25					30		
Glu	Glu	Phe	Tyr	Gly	Gln	His	His	Leu	Lys	Glu	Arg	Leu	Asp	Leu	Phe
		35					40					45			
Leu	Cys	Ala	Ala	Leu	Gln	Arg	Gly	Glu	Val	Pro	Gly	His	Cys	Leu	Phe
	50					55					60				
Phe	Gly	Pro	Pro	Gly	Leu	Gly	Lys	Thr	Ser	Leu	Ala	His	Ile	Val	Ala
65					70					75				80	

Tyr Thr Val Gly Lys Gly Leu Val Leu Ala Ser Gly Pro Gln Leu Ile
 85 90 95
 Lys Pro Ser Asp Leu Leu Gly Leu Leu Thr Ser Leu Gln Glu Gly Asp
 100 105 110
 Val Phe Phe Ile Asp Glu Ile His Arg Met Gly Lys Val Ala Glu Glu
 115 120 125
 Tyr Leu Tyr Ser Ala Met Glu Asp Phe Lys Val Asp Ile Thr Ile Asp
 130 135 140
 Ser Gly Pro Gly Ala Arg Ser Val Arg Val Asp Leu Ala Pro Phe Thr
 145 150 155 160
 Leu Val Gly Ala Thr Thr Arg Ser Gly Met Leu Ser Glu Pro Leu Arg
 165 170 175
 Ala Arg Phe Ala Phe Ser Ala Arg Leu Ser Tyr Tyr Ser Asp Gln Asp
 180 185 190
 Leu Lys Glu Ile Leu Val Arg Ser Ser His Leu Leu Gly Ile Glu Ala
 195 200 205
 Asp Ser Ser Ala Leu Leu Glu Ile Ala Lys Arg Ser Arg Gly Thr Pro
 210 215 220
 Arg Leu Ala Asn His Leu Leu Arg Trp Val Arg Asp Phe Ala Gln Ile
 225 230 235 240
 Arg Glu Gly Asn Cys Ile Asn Gly Asp Val Ala Glu Lys Ala Leu Ala
 245 250 255
 Met Leu Leu Ile Asp Asp Trp Gly Leu Asn Glu Ile Asp Ile Lys Leu
 260 265 270
 Leu Thr Thr Ile Ile Asp Tyr Tyr Gln Gly Gly Pro Val Gly Ile Lys
 275 280 285
 Thr Leu Ser Val Ala Val Gly Glu Asp Ile Lys Thr Leu Glu Asp Val
 290 295 300
 Tyr Glu Pro Phe Leu Ile Leu Lys Gly Phe Ile Lys Lys Thr Pro Arg
 305 310 315 320
 Gly Arg Met Val Thr Gln Leu Ala Tyr Asp His Leu Lys Arg His Ala
 325 330 335
 Lys Asn Leu Leu Ser Leu Gly Glu Gly Gln
 340 345

<210> 393
 <211> 64
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0391

<400> 393
 Lys Asp Gln Leu Tyr Lys Gln Glu Lys Pro Ile Pro Lys Ala Thr Ile
 1 5 10 15
 Leu Ser Arg Asn Leu Glu Val Met Leu Asp Asn Pro Lys Gly Lys Arg
 20 25 30
 Gln Thr Leu Phe Leu Gly Arg Thr Ser Gly Arg Ser Ala Leu Tyr Ser
 35 40 45
 Tyr Ser Arg Arg Ile Leu Val Leu Leu Asn Ala Phe Met Arg Gly Pro
 50 55 60

<210> 394
 <211> 190
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0392

<400> 394

Met	Ser	Ile	Lys	Glu	Asp	Lys	Trp	Ile	Arg	Glu	Met	Ala	Leu	Asn	Ala
1				5					10					15	
Asp	Met	Ile	His	Pro	Phe	Val	Asn	Gly	Gln	Val	Asn	Val	Asn	Glu	Glu
		20					25						30		
Thr	Gly	Glu	Lys	Leu	Ile	Ser	Tyr	Gly	Leu	Ser	Ser	Tyr	Gly	Tyr	Asp
	35					40						45			
Leu	Arg	Leu	Ser	Arg	Glu	Phe	Lys	Val	Phe	Thr	Asn	Val	Tyr	Asn	Ser
	50				55					60					
Val	Val	Asp	Pro	Lys	Cys	Phe	Thr	Glu	Asp	Ile	Phe	Ile	Ser	Ile	Thr
65				70					75					80	
Asp	Asp	Val	Cys	Ile	Val	Pro	Pro	Asn	Ser	Phe	Ala	Leu	Ala	Arg	Ser
			85					90						95	
Val	Glu	Tyr	Phe	Arg	Ile	Pro	Arg	Asn	Val	Leu	Thr	Met	Cys	Ile	Gly
		100					105						110		
Lys	Ser	Thr	Tyr	Ala	Arg	Cys	Gly	Ile	Ile	Val	Asn	Val	Thr	Pro	Phe
		115					120						125		
Glu	Pro	Glu	Trp	Glu	Gly	His	Val	Thr	Ile	Glu	Ile	Ser	Asn	Thr	Thr
	130				135						140				
Pro	Leu	Pro	Ala	Lys	Ile	Tyr	Ala	Asn	Glu	Gly	Ile	Ala	Gln	Val	Leu
145				150					155					160	
Phe	Phe	Glu	Ser	Ser	Thr	Thr	Cys	Glu	Val	Ser	Tyr	Ala	Asp	Arg	Lys
			165					170						175	
Gly	Lys	Tyr	Gln	Lys	Gln	Gln	Gly	Ile	Thr	Val	Pro	Cys	Val		
			180					185					190		

<210> 395

<211> 165

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0393

<400> 395

Lys	Phe	Leu	Thr	Leu	Arg	His	Cys	Gln	Arg	Lys	Phe	Thr	Leu	Met	Lys
1				5					10					15	
Gly	Leu	Pro	Arg	Ser	Tyr	Ser	Leu	Ser	Leu	Val	Arg	Pro	Ala	Arg	Phe
		20					25						30		
Leu	Met	Gln	Thr	Glu	Lys	Glu	Ser	Ile	Lys	Ser	Asn	Lys	Ala	Ser	Pro
	35					40						45			
Tyr	Leu	Val	Ser	Lys	Val	Ser	Val	Arg	Lys	Lys	Asn	Trp	Gly	Phe	Arg
	50				55					60					
Leu	Leu	Glu	Glu	Val	Met	Ile	Lys	Ser	Trp	Trp	Val	Ile	Phe	Ser	Ile
65				70					75					80	
Leu	Ile	Gly	Gly	Phe	Val	Tyr	Asp	Arg	Ala	Ile	Gln	Glu	Leu	Arg	Thr
			85					90						95	
Glu	Glu	Leu	Arg	Leu	Gln	Ser	Lys	Val	Ser	Ser	Leu	Cys	Gln	Asp	Ile
		100					105						110		
Leu	Ser	Ala	Gln	Glu	Lys	Gln	Arg	Gln	Leu	Gln	Leu	His	Leu	Gln	His
		115				120						125			
Trp	Gln	Asp	Ser	Ala	Ala	Ile	Glu	Ala	Ala	Leu	Ile	Gln	Arg	Leu	Gly
	130					135					140				
Leu	Ile	Pro	Lys	Gly	Tyr	Lys	Lys	Leu	Cys	Val	Ser	Pro	Lys	Gln	Gln
145				150					155					160	
Ser	Glu	Asn	Lys	Asp											
			165												

<210> 396
 <211> 414
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0394

<400> 396
 Lys Glu Thr Met Ile Pro Thr Met Leu Met Phe Phe Ile Ile Cys Phe
 1 5 10 15
 Thr Leu Cys Ser Gly Phe Ile Ser Leu Ser Gln Ile Ala Leu Phe Ser
 20 25 30
 Leu Pro Thr Ser Leu Ile Ser His Tyr Lys Arg Ser Lys Ser Lys Lys
 35 40 45
 Gln Gln Arg Val Ala Thr Leu Leu Leu His Pro His His Leu Leu Ile
 50 55 60
 Thr Leu Ile Phe Cys Asp Ile Gly Leu Asn Ile Ala Ile Gln Asn Cys
 65 70 75 80
 Phe Ala Ile Leu Phe Gly Asp Ala Ala Ser Trp Trp Phe Thr Val Gly
 85 90 95
 Leu Pro Leu Ala Ile Thr Leu Ile Leu Gly Glu Ile Leu Pro Lys Ala
 100 105 110
 Val Ala Leu Pro Phe Asn Thr Gln Ile Ala Ser Ser Val Ala Pro Leu
 115 120 125
 Ile Leu Cys Val Thr Lys Ile Phe Lys Pro Leu Leu His Trp Gly Ile
 130 135 140
 Val Gly Ile Asn Tyr Val Val Gln Trp Ile Leu Ser Lys Gln Gln Ile
 145 150 155 160
 Asp Ile Ile Gln Pro Gln Glu Leu Lys Glu Val Leu Gln Ser Cys Lys
 165 170 175
 Asp Phe Gly Val Val Asn Gln Glu Glu Ser Arg Leu Leu Tyr Gly Tyr
 180 185 190
 Leu Ser Leu Ser Asp Cys Ser Val Lys Glu Arg Met Gln Pro Arg Gln
 195 200 205
 Asp Ile Leu Phe Tyr Asp Ile Gln Thr Pro Leu Glu Asn Leu Tyr Leu
 210 215 220
 Leu Phe Ser Lys Gln His Cys Ser Arg Val Pro Ile Cys Asn Asp Asn
 225 230 235 240
 Leu Gln Asn Leu Leu Gly Ile Cys Thr Ala Arg Ser Leu Leu Leu His
 245 250 255
 Asp Lys Pro Leu Gln Ser Ser Asp Asp Leu Leu Pro Leu Leu Lys Lys
 260 265 270
 Pro Tyr Tyr Met Pro Glu Thr Ile Ser Ala Lys Met Ala Leu Cys Gln
 275 280 285
 Met Ala Ala Glu Asp Glu Thr Leu Gly Met Ile Ile Asp Glu Tyr Gly
 290 295 300
 Ser Ile Glu Gly Leu Ile Thr Gln Glu Asp Leu Phe Glu Ile Val Ala
 305 310 315 320
 Gly Glu Ile Val Asp Gln Arg Asp Asn Lys Ile Leu Tyr Thr Thr Ser
 325 330 335
 Gly Ala Asp Val Ile Ile Ala Ser Gly Thr Leu Glu Leu Arg Glu Phe
 340 345 350
 Ser Glu Ile Phe Asp Ile Asn Leu Pro Thr Asn Asn Asn Ile Ala Thr
 355 360 365
 Ile Gly Gly Trp Leu Ile Glu Gln Ile Gly Thr Ile Pro Thr Thr Gly
 370 375 380
 Met Lys Leu Ser Trp Asn Asn Leu Leu Phe Gln Val Leu Asp Ala Ala
 385 390 395 400
 Pro Asn Arg Ile Arg Arg Val Tyr Ile Arg Lys Leu Tyr Asp
 405 410

<210> 397
 <211> 407
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0395

<400> 397
 Gly Asn Cys Met Thr Asn Ser Ala Leu Phe Trp Ile Gly Val Asn Ile
 1 5 10 15
 Ile Cys Ile Val Leu Gln Gly Phe Tyr Ser Met Met Glu Met Ala Cys
 20 25 30
 Val Ser Phe Asn Arg Val Arg Leu Gln Tyr Tyr Leu Thr Lys Asp His
 35 40 45
 Lys Lys Ala Arg Tyr Ile Asn Phe Leu Ile Arg Arg Pro Tyr Arg Leu
 50 55 60
 Phe Gly Thr Val Met Leu Gly Val Asn Ile Ala Leu Gln Val Gly Ser
 65 70 75 80
 Glu Ser Ser Arg Asn Cys Tyr Arg Ala Leu Gly Ile Thr Pro Asp Tyr
 85 90 95
 Ala Pro Phe Thr Gln Ile Phe Ile Val Val Ile Phe Ala Glu Leu Leu
 100 105 110
 Pro Leu Thr Ile Ser Arg Lys Ile Pro Glu Lys Leu Ala Leu Trp Gly
 115 120 125
 Ala Pro Ile Leu Tyr Tyr Ser His Tyr Ile Phe Tyr Pro Leu Ile Gln
 130 135 140
 Leu Ile Gly Ser Leu Thr Glu Gly Leu Tyr Tyr Leu Leu Asn Ile Arg
 145 150 155 160
 Lys Glu Lys Leu Asn Ser Thr Leu Ser Arg Asp Glu Phe Gln Lys Ala
 165 170 175
 Leu Glu Thr His His Glu Glu Gln Asp Phe Asn Thr Ile Ala Thr Asn
 180 185 190
 Ile Phe Ser Leu Ser Ala Thr Cys Ala Asp Gln Val Cys Gln Pro Leu
 195 200 205
 Glu Gln Val Thr Met Leu Pro Ser Ser Ala Asn Val Lys Asp Phe Cys
 210 215 220
 Arg Thr Ile Lys Asn Thr Asp Ile Asn Phe Ile Pro Val Tyr His Lys
 225 230 235 240
 Ala Arg Lys Asn Val Ile Gly Ile Ala His Pro Lys Asp Phe Val Asn
 245 250 255
 Lys Ala Leu Asp Glu Pro Leu Ile Asn Asn Leu His Ser Pro Trp Phe
 260 265 270
 Ile Thr Ala Lys Ser Lys Leu Ile Arg Ile Leu Lys Glu Phe Arg Asp
 275 280 285
 Asn Arg Ser Ser Val Ala Val Val Leu Asn Ala Ser Gly Glu Pro Ile
 290 295 300
 Gly Ile Leu Ser Leu Asn Ala Ile Phe Lys Ile Leu Phe Asn Thr Thr
 305 310 315 320
 Asn Ile Ala His Leu Lys Pro Lys Thr Ile Ser Val Ile Glu Arg Thr
 325 330 335
 Phe Pro Gly Asn Ser Arg Ile Lys Asp Leu Gln Lys Glu Leu Asp Ile
 340 345 350
 Gln Phe Pro Gln Tyr Pro Val Glu Thr Leu Ala Gln Leu Val Leu Gln
 355 360 365
 Leu Leu Asp Ser Pro Ala Glu Val Gly Thr Ser Val Ile Ile Asn Asn
 370 375 380
 Leu Leu Leu Glu Val Lys Glu Met Ser Leu Ser Gly Ile Lys Thr Val
 385 390 395 400
 Ser Ile Lys Asn Leu Leu Ser
 405

<210> 398
 <211> 373
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0396

<400> 398
 Tyr Ser Met Ile Tyr Leu Asp Asn Asn Ala Met Thr Pro Pro Glu Arg
 1 5 10 15
 Gly Leu Leu Glu Phe Leu Gln Lys Thr Phe Leu Ile Glu Gly Thr Tyr
 20 25 30
 Ala Asn Pro Ser Ser Val His Gln Leu Gly Lys Lys Ser Arg Gln Leu
 35 40 45
 Val Leu Glu Ala Ser His Trp Met Gln Lys Val Leu Ser Phe Gln Gly
 50 55 60
 Arg Val Leu Tyr Thr Ser Gly Ala Thr Glu Ser Leu Asn Leu Ala Ile
 65 70 75 80
 Ala Ser Leu Pro Lys Asp Ser His Val Ile Thr Ser Gly Ser Glu His
 85 90 95
 Pro Ala Ile Leu Glu Pro Leu Lys His Ser Ser Leu Ser Val Ser Tyr
 100 105 110
 Leu Asn Pro Glu Glu Gly Arg Cys Val Leu Thr Ile Glu Gln Ile Glu
 115 120 125
 Arg Ala Val Thr Pro Lys Thr Ser Ala Ile Ile Leu Gly Trp Val Asn
 130 135 140
 Ser Glu Thr Gly Ala Lys Ala Asp Ile Ala Ala Ile Ala His Phe Ala
 145 150 155 160
 Gln Glu Arg Gln Leu Gln Phe Ile Val Asp Ala Thr Ala Asn Val Gly
 165 170 175
 Lys Glu Arg Ile Val Leu Pro Ser Gly Val Thr Met Ala Ala Phe Ser
 180 185 190
 Gly His Lys Phe His Ala Leu Ser Gly Ile Gly Ala Leu Leu Val Ser
 195 200 205
 Pro Gly Val Lys Leu His Pro Gln Leu Trp Gly Gly Gly Gln Gln Gly
 210 215 220
 Gly Leu Arg Ala Gly Thr Glu Asn Leu Trp Gly Ile Ala Ser Leu Leu
 225 230 235 240
 Tyr Ile Phe Lys Tyr Leu Asp Leu His Gln Glu Arg Ile Ser Gln Glu
 245 250 255
 Ile Leu Thr His Arg Asn Gly Phe Glu Lys Ala Ile Lys Ala Arg Ile
 260 265 270
 Pro Asp Val His Ile His Cys Ala Asp Gln Pro Arg Ala Asn Asn Val
 275 280 285
 Ser Ala Ile Ala Phe Pro Pro Leu Glu Gly Glu Val Leu Gln Ile Ala
 290 295 300
 Leu Asp Ile Glu Gly Val Ala Cys Gly Tyr Gly Ser Ala Cys Ser Ser
 305 310 315 320
 Gly Ala Thr Ala Pro Phe Lys Ser Leu Val Ser Met Gly Val Asp Glu
 325 330 335
 Glu Leu Thr Leu Ala Thr Leu Arg Phe Ser Phe Ser His Leu Leu Leu
 340 345 350
 Gln Glu Asp Val Glu Arg Ala Val Gly Ile Ile Glu Lys Val Val Glu
 355 360 365
 Arg Leu Lys Asn Ser
 370

<210> 399
 <211> 248
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0397

<400> 399
 Glu His Phe Val Asp Phe Asp Tyr Phe Gly Leu Ser Asp Ile Gly Arg
 1 5 10 15
 Val Arg Ala Arg Asn Glu Asp Phe Trp Gln Val Asn Leu Met Ser Gln
 20 25 30
 Val Val Ala Ile Ala Asp Gly Val Gly Gly Arg Leu Gly Gly Asp Ile
 35 40 45
 Ala Ser Gln Glu Ala Val Thr Ser Leu Met Glu Leu Ile Asp Glu Gln
 50 55 60
 Gln Ser Lys Leu Met Gly Tyr Gly Asp Asp Gln Tyr Lys Glu Thr Leu
 65 70 75 80
 Lys Lys Ile Leu Leu Glu Val Asn Gly Val Tyr Glu His Gly Gln
 85 90 95
 Met Glu Glu His Leu Gln Gly Met Gly Thr Thr Leu Ser Phe Ile Gln
 100 105 110
 Phe Arg Lys Asp Arg Ala Trp Leu Phe His Val Gly Asp Ser Arg Ile
 115 120 125
 Tyr Arg Ile Arg Glu Gly Glu Leu Arg Arg Leu Thr Glu Asp His Ser
 130 135 140
 Leu Glu Asn Gln Leu Lys Asn Arg Tyr Gly Leu Pro Lys Gln Ser Asp
 145 150 155 160
 Lys Val Tyr Ser Tyr Arg His Ile Leu Thr Asn Val Leu Gly Ser Arg
 165 170 175
 Pro Tyr Val Met Pro Asp Ile Arg Asn Leu Pro Cys Glu Lys Glu Asp
 180 185 190
 Leu Tyr Cys Leu Cys Ser Asp Gly Leu Thr Asn Met Val Pro Asp Ile
 195 200 205
 Asp Ile Arg Asp Ile Leu Asn Gln Pro Ala Thr Leu Glu Glu Arg Gly
 210 215 220
 Asn Ala Leu Ile Ser Leu Ala Asn Thr Arg Gly Gly Asp Asp Asn Ala
 225 230 235 240
 Thr Val Val Leu Val Arg Ile Gln
 245

<210> 400
 <211> 61
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0398

<400> 400
 Ile Glu Glu Leu Pro Met Gln Ile Glu Asn Ser Ser Ile Leu Phe Ala
 1 5 10 15
 Glu Val Val Met Lys Trp Phe Ile Phe Ser Val Ile Ser Ala Pro Val
 20 25 30
 Val Phe Leu Pro Gly Cys Thr Leu Ile Pro Lys Glu Lys Val Thr Lys
 35 40 45
 Val Pro Ser Gln Leu Trp Ser Glu Ser Leu Ser Gln Pro
 50 55 60

<210> 401
 <211> 255
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0399

<400> 401
 Tyr Lys Leu Met Arg Val Leu Asn Gly Lys Ser Leu Asn Cys Glu Ser
 1 5 10 15
 Ile Asp Leu Lys Ser Lys Asn Phe Pro Arg Ala Arg Ile Phe Cys Lys
 20 25 30
 Ile Ser Asn Leu Arg Thr Val Thr Met Arg Lys Met Leu Val Leu Leu
 35 40 45
 Ala Ser Leu Gly Leu Leu Ser Pro Thr Leu Ser Ser Cys Thr His Leu
 50 55 60
 Gly Ser Ser Gly Ser Tyr His Pro Lys Leu Tyr Thr Ser Gly Ser Lys
 65 70 75 80
 Thr Lys Gly Val Ile Ala Met Leu Pro Val Phe His Arg Pro Gly Lys
 85 90 95
 Ser Leu Glu Pro Leu Pro Trp Asn Leu Gln Gly Glu Phe Thr Glu Glu
 100 105 110
 Ile Ser Lys Arg Phe Tyr Ala Ser Glu Lys Val Phe Leu Ile Lys His
 115 120 125
 Asn Ala Ser Pro Gln Thr Val Ser Gln Phe Tyr Ala Pro Ile Ala Asn
 130 135 140
 Arg Leu Pro Glu Thr Ile Ile Glu Gln Phe Leu Pro Ala Glu Phe Ile
 145 150 155 160
 Val Ala Thr Glu Leu Leu Glu Gln Lys Thr Gly Lys Glu Ala Gly Val
 165 170 175
 Asp Ser Val Thr Ala Ser Val Arg Val Arg Val Phe Asp Ile Arg His
 180 185 190
 His Lys Ile Ala Leu Ile Tyr Gln Glu Ile Ile Glu Cys Ser Gln Pro
 195 200 205
 Leu Thr Thr Leu Val Asn Asp Tyr His Arg Tyr Gly Trp Asn Ser Lys
 210 215 220
 His Phe Asp Ser Thr Pro Met Gly Leu Met His Ser Arg Leu Phe Arg
 225 230 235 240
 Glu Val Val Ala Arg Val Glu Gly Tyr Val Cys Ala Asn Tyr Ser
 245 250 255

<210> 402
 <211> 260
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0400

<400> 402
 Ser Lys Glu Met Ser Lys Phe Ile Leu Leu Leu Ser Leu Gly Val Ala
 1 5 10 15
 Ala Leu Ala Ser Lys Asn Phe Phe Ile Trp Pro Ala Pro Ser Gly Lys
 20 25 30
 Thr Pro Leu Lys Leu Arg Gln Val Leu Phe Gly Gly Ala Leu Leu Val
 35 40 45
 Phe Ser Ser Ser Leu Val Ala Leu Ser Val Ser Ser Gln Thr Ala Glu Leu
 50 55 60
 Leu Ser Thr Met Thr Gly Ile Ser Leu Ala Phe Ala Phe Leu Phe Tyr
 65 70 75 80

<400> 404

Asn	Phe	Lys	Arg	Phe	Cys	Met	Thr	Lys	Ile	Ala	Phe	Ser	Glu	Lys	Ala
1				5					10					15	
Lys	Asn	Phe	Pro	Val	Glu	Ala	Leu	Lys	Lys	Trp	Phe	Glu	Lys	Asn	Lys
			20					25					30		
Arg	Ser	Leu	Pro	Trp	Arg	Asp	Asn	Pro	Thr	Pro	Tyr	Ser	Val	Trp	Val
		35					40					45			
Ser	Glu	Val	Met	Leu	Gln	Gln	Thr	Arg	Ala	Glu	Val	Val	Ile	Asp	Tyr
	50					55					60				
Phe	Asn	Gln	Trp	Met	Glu	Arg	Phe	Pro	Thr	Ile	Glu	Ser	Leu	Ala	Ala
65					70					75				80	
Ala	Lys	Glu	Glu	Asp	Val	Ile	Lys	Leu	Trp	Glu	Gly	Leu	Gly	Tyr	Tyr
				85				90						95	
Ser	Arg	Ala	Arg	His	Leu	Leu	Glu	Gly	Ala	Arg	Met	Val	Met	Glu	Glu
		100						105					110		
Phe	His	Gly	Lys	Ile	Pro	Asp	Asp	Ala	Ile	Ser	Leu	Ala	Gln	Ile	Arg
	115						120					125			
Gly	Val	Gly	Pro	Tyr	Thr	Val	His	Ala	Ile	Leu	Ala	Phe	Ala	Phe	Lys
	130					135					140				
Arg	Arg	Ala	Ala	Ala	Val	Asp	Gly	Asn	Val	Leu	Arg	Val	Leu	Ser	Arg
145					150					155					160
Ile	Phe	Leu	Ile	Glu	Thr	Ser	Ile	Asp	Leu	Glu	Ser	Thr	Arg	Thr	Trp
				165					170					175	
Val	Ser	Arg	Ile	Ala	Gln	Ala	Leu	Leu	Pro	His	Lys	Ser	Pro	Glu	Val
			180					185					190		
Ile	Ala	Glu	Ala	Leu	Ile	Glu	Leu	Gly	Ala	Cys	Ile	Cys	Lys	Lys	Val
	195						200					205			
Pro	Gln	Cys	His	Arg	Cys	Pro	Val	Arg	Gln	Ala	Cys	Gly	Ala	Trp	Arg
	210					215					220				
Glu	Asn	Lys	Gln	Phe	Val	Leu	Pro	Val	Arg	His	Ala	Arg	Lys	Lys	Val
225					230					235					240
Ile	Phe	Leu	His	Arg	Leu	Val	Ala	Ile	Val	Leu	Tyr	Asp	Gly	Ser	Leu
				245					250					255	
Val	Val	Glu	Lys	Arg	Arg	Pro	Lys	Glu	Met	Met	Ala	Gly	Leu	Tyr	Glu
			260					265					270		
Phe	Pro	Tyr	Ile	Glu	Val	Glu	Pro	Glu	Glu	Gly	Leu	Gln	Asp	Ile	Glu
		275					280					285			
Gly	Phe	Thr	Lys	Lys	Met	Glu	Leu	Ser	Leu	Glu	Ser	Pro	Leu	Glu	Phe
	290					295					300				
Leu	Gly	Asn	Leu	Lys	Glu	Gln	Arg	His	Ala	Phe	Thr	Asn	His	Lys	Val
305					310					315					320
His	Leu	Cys	Pro	Ile	Ile	Phe	Lys	Ala	Thr	Ser	Leu	Pro	Gln	Phe	Gly
				325					330					335	
Glu	Leu	His	Leu	Leu	Ser	Asp	Ile	Asp	His	Leu	Ala	Phe	Ser	Ser	Gly
			340					345					350		
His	Lys	Lys	Ile	Lys	Asp	Ala	Leu	Leu	Ile	Tyr	Leu	Gly	Asp	Val	Arg
		355					360					365			
Ser	Arg	Glu	Ser	Ile	Gly	Val									
	370					375									

<210> 405

<211> 234

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0403

<400> 405

Asn	Phe	Met	Gln	Leu	Ser	Asn	Asp	Lys	Arg	Ala	Ala	Leu	Gln	Tyr	Phe
1				5					10					15	

Met Glu Asn Phe Ser Trp Leu Ala Thr Gln Val Ser Arg Leu Ser Ser
 20 25 30
 Phe Leu Arg Ser Gln Leu Pro Asn His Ser Lys Gln Glu Ile Leu Ala
 35 40 45
 Ser Ile Arg Gln His Arg Cys Arg Val Asn Gly Phe Ile Glu Arg Phe
 50 55 60
 Glu Ser Tyr Lys Val Gln Pro Gly Asp Arg Val Ser Leu Ser Leu Ile
 65 70 75 80
 Pro Ser Thr Lys Gln Gln Pro Ser Ile Leu Trp Glu Asp Asp Tyr Ser
 85 90 95
 Ile Ile Tyr Glu Lys Pro Pro His Leu Thr Thr Glu Gln Met Ala His
 100 105 110
 Met Thr Arg Phe Phe Thr Val His Arg Leu Asp Lys Gly Thr Ser Gly
 115 120 125
 Cys Leu Leu Met Gly Lys Ser Lys Gln Ala Ala Thr Glu Leu Met Lys
 130 135 140
 Leu Phe Lys Gln Arg Lys Ile His Lys Gln Tyr Ile Ala Phe Val Phe
 145 150 155 160
 Gly His Pro Lys Lys Lys Phe Gly Thr Val Lys Ser Tyr Thr Ala Pro
 165 170 175
 Val Tyr Arg Arg Cys Gly Ala Val Ile Phe Gly Ala Ala Gly Pro Ser
 180 185 190
 Gln Gly Glu Pro Ile Lys Ser Ala Tyr Lys Trp Asp Cys Trp Val Ile
 195 200 205
 Leu Leu Ser Glu Met Ser Thr Thr Asp Leu Lys Asn Ser Leu Pro Arg
 210 215 220
 Ser Ser Ala Leu Ser Ser Met Leu Thr Pro
 225 230

<210> 406
 <211> 364
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0404

<400> 406
 Glu Leu Glu Ala Leu Glu Gln Lys Tyr Gly Lys Ala Val Leu Leu Ile
 1 5 10 15
 Ala Leu Ser Glu Leu Gly Ile Asp Thr Met Ser Leu Leu Ser Gly His
 20 25 30
 Arg Leu Glu Gly Phe Pro Pro Ile Ala Glu Val Met Ala Ala Cys Asp
 35 40 45
 Arg Cys Ser Met Asp Phe Cys Glu Ile Leu Lys Ser Gln Ser Met Asp
 50 55 60
 Leu Trp Ala Asp Ala Ala Ser Cys Val Asp Gly Leu Leu Gln Asp Pro
 65 70 75 80
 Phe Trp Ser Thr Ala Ile Ala Ser Gly Ile Ala Lys Ser Ser Leu Gln
 85 90 95
 Glu Thr Glu Phe Glu Cys Glu Ser Lys Val Met Val Leu Ser Ser Trp
 100 105 110
 Gly Glu Gln Gly Ala Gln Val Cys Ser Pro Phe Asn Leu Glu Arg Ile
 115 120 125
 Cys Met Ser Phe Pro Ser Leu Lys Val Phe Ser Leu Lys Lys Asn Gly
 130 135 140
 Cys Glu Asn Met Gly Ile Gln Leu Ser Ala Ser Cys Met Asn Leu Leu
 145 150 155 160
 Met Ser Ile Phe Phe Val Ala Thr Asn Gly Gly Ser Thr Pro Ile Trp
 165 170 175

Ile Thr Lys Glu Asn Leu Met Ala Leu Val Ala Leu Val Leu Ser His
 180 185 190
 Tyr Gln Cys Tyr Phe Val Pro Ala Thr Gly Asp Pro Gln Arg Gly Asn
 195 200 205
 Ile Leu Gly Asn Pro Glu Val Asn Ala Ile Leu Ala Arg Gly Met Gly
 210 215 220
 Met Arg Val Asp Leu Glu Arg Lys Arg Gly Gly Glu Ser Ser Ser Ser
 225 230 235 240
 Arg Tyr Leu Glu Leu Ala Ala Arg Cys Phe Glu Asn Ser Leu Thr Lys
 245 250 255
 Thr Ser Leu Leu Ser Asp Ala Asn Asn Val Gln Glu Arg Asp Lys Cys
 260 265 270
 Leu Leu Gln Met Ser Thr Ser Leu Met His Thr Ala Gly Leu Asn Leu
 275 280 285
 Gln Arg Pro Pro Val Pro Thr Pro Ser Gly Val Thr Ala His Pro Gln
 290 295 300
 Pro Gln Pro Asp Pro Val Val Thr Ser Gln Pro Ser Leu Leu Gly Ala
 305 310 315 320
 Arg Glu Arg Ser Pro Val Ser Ser Arg Gly Arg Phe Pro Val Val Leu
 325 330 335
 Pro Leu Ser Val Ile Ser Pro Arg Ser His Pro Gly Arg Val Glu Arg
 340 345 350
 Arg Asp Leu Glu Asp Glu Glu Glu Glu Val Met Phe
 355 360

<210> 407
 <211> 283
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0405

<400> 407
 Asn Ile Gln Thr Ser His Ser Arg Val Leu Leu Lys Lys Phe Ser Lys
 1 5 10 15
 Glu Phe Thr Ile Arg Thr Tyr Arg Ser Leu Gly Phe Thr Asp Tyr Leu
 20 25 30
 Gly Gly Cys Leu Thr Asn Pro Leu Gly Lys Phe Pro Ser Pro Gln Asn
 35 40 45
 Pro Gln Val Val Thr Ile Ala Pro Ser Ser Thr Thr Pro Gln Ala Val
 50 55 60
 Ser Ser Ala Val Gln Gly Phe Leu Gln Thr Gly Gly Ala Ala Ser Ser
 65 70 75 80
 Thr Ala Thr Thr Thr Thr Ala Ser Gly Ala Ser Ala Leu Gly Leu Ser
 85 90 95
 Pro Asp Gln Val Gln Ala Leu Leu Thr Asn Leu Leu Asn Val Gly Gln
 100 105 110
 Pro Ser Val Gly Gln Pro Ser Thr Ser Ala Gly Thr Ser Gly Ala Ser
 115 120 125
 Ser Ser Ser Ala Ser Met Gln Gln Gln Leu Leu Gln Leu Ile Leu Asp
 130 135 140
 Lys Thr Thr Gly Ser Gly Gly Ser Ser Val Ser Ser Glu Gln Leu Gln
 145 150 155 160
 Gln Leu Leu Ser Leu Val Ser Gln Met Thr Thr Ser Gln Gly Gly Ser
 165 170 175
 Gly Gly Thr Gln Ala Gly Gln Ala Ala Ser Val Leu Leu Asn Leu Leu
 180 185 190
 Ser Ala Thr Gly Ser Ala Ala Ala Asn Pro Leu Gly Thr Ala Ala Ser
 195 200 205

Leu Ala Gln Ile Ile Tyr Ala Ala Val Thr Ser Pro Gly Ala Lys Lys
 210 215 220
 Thr Ser Glu Phe Cys Tyr Asn Tyr Cys Gly Glu Thr Cys Gln Gly Asn
 225 230 235 240
 Cys Gly Cys Pro Thr Cys Gly Cys Pro Asp Gly Gln Cys Gly Cys Gly
 245 250 255
 Gly Phe Gly Arg Phe Phe Cys Gly Val Trp Lys Asn Cys Cys Gly Ile
 260 265 270
 Gly Glu Gly Ser Gln Glu Pro Ala Ile Pro Leu
 275 280

<210> 408
 <211> 302
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0406

<400> 408
 Gly Gly Phe Met Leu Lys Ile Asp Leu Thr Gly Lys Val Ala Phe Val
 1 5 10 15
 Ala Gly Ile Gly Asp Asp Gln Gly Tyr Gly Trp Gly Ile Ala Lys Leu
 20 25 30
 Leu Ala Glu Ala Gly Ala Thr Ile Ile Val Gly Thr Trp Val Pro Ile
 35 40 45
 Tyr Lys Ile Phe Ser Gln Ser Trp Glu Leu Gly Lys Phe Asn Glu Ser
 50 55 60
 Arg Lys Leu Ser Asn Gly Thr Leu Leu Glu Ile Ala Lys Ile Tyr Pro
 65 70 75 80
 Met Asp Ala Ser Phe Asp Ser Pro Glu Asp Val Pro Glu Asp Ile Ala
 85 90 95
 Glu Asn Lys Arg Tyr Lys Gly Ile Thr Gly Phe Thr Ile Ser Glu Val
 100 105 110
 Ala Glu Gln Val Lys Lys Asp Phe Gly His Ile Asp Ile Leu Val His
 115 120 125
 Ser Leu Ala Asn Ser Pro Glu Ile Ser Lys Ser Leu Leu Glu Thr Ser
 130 135 140
 Arg Lys Gly Tyr Leu Ala Ala Leu Ser Ala Ser Ser Tyr Ser Phe Val
 145 150 155 160
 Ser Leu Leu Ser His Phe Gly Ser Ile Met Asn Arg Gly Gly Ser Thr
 165 170 175
 Ile Ser Leu Thr Tyr Leu Ala Ser Met Arg Ala Val Pro Gly Tyr Gly
 180 185 190
 Gly Gly Met Ser Ser Ala Lys Ala Ala Leu Glu Ser Asp Thr Lys Thr
 195 200 205
 Leu Ala Trp Glu Ala Gly Arg Arg Trp Gly Ile Arg Val Asn Thr Ile
 210 215 220
 Ser Ala Gly Pro Leu Ala Ser Arg Ala Gly Lys Ala Ile Gly Phe Ile
 225 230 235 240
 Glu Arg Met Val Asp Tyr Tyr Gln Glu Trp Ala Pro Ile Pro Glu Ala
 245 250 255
 Met Asn Ala Glu Gln Val Gly Ala Val Ala Ala Phe Leu Ala Ser Pro
 260 265 270
 Leu Ala Ser Ala Ile Thr Gly Glu Thr Leu Tyr Val Asp His Gly Ala
 275 280 285
 Asn Val Met Gly Ile Gly Pro Glu Met Phe Pro Lys Asp Ser
 290 295 300

<210> 409
 <211> 300
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0407

<400> 409
 Asn Tyr Gly Asp Ala Met Glu Lys Leu Leu Val Thr Asp Ile Asp Gly
 1 5 10 15
 Thr Ile Thr His Gln Ser His His Leu Asp Lys Lys Val Tyr Glu Arg
 20 25 30
 Leu Tyr Ala Leu His Gln Ala Gly Trp Lys Leu Phe Phe Leu Thr Gly
 35 40 45
 Arg Tyr Tyr Lys Tyr Ala Ala Arg Leu Phe Ser Asp Phe Asp Ala Pro
 50 55 60
 Tyr Leu Leu Gly Cys Gln Asn Gly Ala Ser Val Trp Ser Ser Thr Ser
 65 70 75 80
 Ser Asn Leu Leu Tyr Ser Lys Ser Leu Pro Ser Asp Leu Leu Cys Ile
 85 90 95
 Leu Gln Asp Cys Met Glu Gly Ala Thr Ala Leu Phe Ser Val Glu Ser
 100 105 110
 Gly Ala Pro Tyr Gly Asp His Tyr Tyr Arg Phe Ser Pro Thr Pro Ile
 115 120 125
 Ala Gln Asp Leu His Glu Tyr Val Asp Pro Arg Tyr Phe Pro Asn Ala
 130 135 140
 Lys Glu Arg Glu Ile Leu Phe Glu Thr Arg Ser Leu Lys Asp Asp Tyr
 145 150 155 160
 Ala Phe Pro Ser Phe Ala Ala Ala Lys Val Phe Gly Leu Arg Asp Glu
 165 170 175
 Val Ile Arg Ile Gln Lys Glu Leu Glu Arg Gln Glu Ala Leu Thr Ser
 180 185 190
 Val Ala Thr Met Thr Leu Met Arg Trp Pro Phe Asp Phe Arg Tyr Ala
 195 200 205
 Ile Leu Phe Leu Thr Asp Lys Ser Val Ser Lys Gly Lys Ala Leu Asp
 210 215 220
 Arg Val Val Asn Ile Leu Tyr Asp Gly Lys Lys Pro Phe Val Met Ala
 225 230 235 240
 Ser Gly Asp Asp Ala Asn Asp Leu Asp Leu Ile Glu Arg Gly Asp Phe
 245 250 255
 Lys Ile Val Met Ser Ser Ala Pro Glu Glu Met His Val His Ala Asp
 260 265 270
 Phe Leu Ala Pro Pro Ala Asp Lys Asn Gly Ile Leu Ser Ala Trp Glu
 275 280 285
 Ala Gly Val Arg Tyr Tyr Asp Asp Leu Met Ser Leu
 290 295 300

<210> 410
 <211> 164
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0408

<400> 410
 Ser Arg Val Leu His Met Phe Phe Asn Leu Phe Ser Leu Val Phe Lys
 1 5 10 15
 Leu Ser Asp Glu Leu Ala Leu Ala Glu Thr Ile Gln Glu Pro Ile Ser
 20 25 30

Val	His	Glu	Met	Phe	Pro	Gly	Ser	Met	Lys	Leu	Glu	Met	Phe	Lys	Met
		35					40					45			
Leu	Gly	Ser	Leu	Ile	Leu	Leu	Leu	Thr	Ile	Phe	Gly	Phe	Gly	Val	Trp
	50				55					60					
Ala	Phe	Lys	Lys	Phe	Val	Arg	Ser	Arg	Ser	His	Gly	Phe	Gly	Gly	Ser
65					70					75					80
Ser	Gln	Ile	Lys	Ile	Leu	Glu	Arg	Arg	Ser	Leu	Thr	Pro	Lys	Thr	Ser
				85					90					95	
Ile	Tyr	Leu	Ile	Arg	Val	Val	Asn	Lys	Thr	Leu	Val	Ile	Ala	Glu	Thr
			100					105					110		
Pro	Glu	Lys	Ile	Thr	Leu	Leu	Thr	Glu	Phe	Pro	Pro	Asp	Thr	Asp	Ile
		115					120					125			
Asn	His	Leu	Leu	Gln	Glu	Asn	Asn	Lys	Gln	Ser	Ser	Ser	Ser	Ala	Thr
	130					135					140				
Ser	Asp	Phe	Leu	Ser	Lys	Ala	Ile	Gln	Lys	Ile	Gln	Lys	Lys	Gln	Gln
145					150					155					160
Thr	Asn	Gln	Asp												

<210> 411
 <211> 161
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0409

Met	Thr	Thr	Trp	Thr	Leu	Asn	Gln	Asn	Asn	Leu	Thr	Lys	Phe	Leu	Lys
1				5					10					15	
Ser	Ser	Asp	Glu	Glu	Pro	Phe	Leu	Glu	Arg	Glu	Ser	Gly	Leu	Thr	Tyr
			20					25					30		
Ile	Asn	Ile	Gln	Ala	Asn	Gly	Asn	Glu	Leu	Pro	Leu	Phe	Phe	Val	Ile
	35					40						45			
Arg	Ser	Glu	Gly	Glu	Ile	Leu	Gln	Leu	Ile	Cys	Tyr	Leu	Pro	Tyr	Gln
	50				55					60					
Leu	His	Glu	Ser	His	Lys	Ala	Ser	Thr	Ala	Arg	Leu	Leu	His	Leu	Leu
65				70					75					80	
Asn	Arg	Asp	Ile	Asp	Ile	Pro	Gly	Phe	Gly	Met	Asp	Glu	Glu	Gln	Gly
			85						90					95	
Leu	Ile	Phe	Tyr	Arg	Leu	Val	Leu	Pro	Cys	Leu	Asn	Gly	Glu	Ile	His
			100					105					110		
Asp	Thr	Leu	Leu	Arg	Ile	Tyr	Ile	Asp	Thr	Ile	Lys	Leu	Val	Cys	Asp
		115					120					125			
Ser	Phe	Ser	His	Ala	Ile	Gly	Leu	Ile	Ser	Ser	Gly	Asn	Met	Asn	Leu
	130					135					140				
Asp	Glu	Leu	Arg	Arg	Gln	Ala	Leu	Gln	Glu	Gln	Gln	Glu	Lys	Arg	Asn
145					150					155					160
Glu															

<210> 412
 <211> 249
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0410

<400> 412

Asp	Val	Arg	Leu	Phe	Lys	Ser	Asn	Lys	Lys	Asn	Val	Met	Ser	Ser	Gln
1				5					10					15	
Thr	Met	Asp	Val	Leu	Ile	Phe	Tyr	Asp	Thr	Glu	Thr	Thr	Gly	Thr	Gln
			20					25					30		
Ile	Glu	Arg	Asp	Arg	Ile	Ile	Glu	Ile	Ala	Ala	Tyr	Asn	Ser	Val	Thr
		35					40					45			
Asp	Glu	Ser	Phe	Leu	Thr	Tyr	Val	Asn	Pro	Glu	Ile	Pro	Ile	Pro	Asp
	50					55					60				
Glu	Ala	Ser	Lys	Ile	His	Gly	Ile	Thr	Thr	Asp	Ala	Val	Leu	Ser	Ala
65					70					75					80
Pro	Lys	Phe	Pro	Glu	Ala	Tyr	Glu	Gly	Phe	Arg	Lys	Phe	Cys	Gly	Glu
				85					90					95	
Asp	Ser	Ile	Leu	Val	Ala	His	Asn	Asn	Asp	Gly	Phe	Asp	Phe	Pro	Leu
			100					105					110		
Leu	Gly	Lys	Glu	Cys	Arg	Arg	His	Ser	Leu	Glu	Pro	Leu	Thr	Asn	Arg
	115						120						125		
Thr	Ile	Asp	Ser	Leu	Lys	Trp	Ala	Gln	Lys	Tyr	Arg	Pro	Asp	Leu	Pro
	130					135					140				
Lys	His	Asn	Leu	Gln	Tyr	Leu	Arg	Gln	Val	Tyr	Gly	Phe	Ala	Glu	Asn
145					150					155					160
Gln	Ala	His	Arg	Ala	Leu	Asp	Asp	Val	Val	Ile	Leu	His	Lys	Val	Phe
				165				170						175	
Thr	Ser	Leu	Ile	Gly	Asp	Leu	Pro	Pro	Gln	Gln	Val	Leu	Asp	Leu	Leu
			180					185					190		
Gln	Gln	Ser	Tyr	His	Pro	Lys	Val	Phe	Lys	Met	Pro	Phe	Gly	Lys	Tyr
	195					200					205				
Lys	Gly	Gln	Pro	Leu	Val	Asp	Ile	Pro	Lys	Ser	Tyr	Phe	Glu	Trp	Leu
	210					215					220				
Glu	Asn	Gln	Gly	Ala	Leu	Asp	Lys	Pro	Glu	Asn	Lys	Asp	Ile	Lys	Ala
225					230					235					240
Ala	Ile	Ala	Leu	Leu	His	Gln	Pro	Thr							
					245										

<210> 413

<211> 272

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0411

<400> 413

Arg	His	Gln	Ser	Arg	Tyr	Ser	Ser	Ile	Thr	Ser	Thr	Asp	Met	Ile	Leu
1				5					10					15	
Thr	Ala	Ala	Phe	Ser	Pro	Cys	Pro	Asn	Asp	Ile	Phe	Leu	Phe	Arg	Ser
			20					25					30		
Phe	Leu	Lys	Asp	Pro	Gln	Phe	Arg	Pro	Leu	Leu	Asn	Gln	Val	Thr	Ile
		35					40					45			
Ala	Asp	Ile	Glu	Thr	Leu	Asn	Thr	Leu	Ala	Leu	Gln	Arg	Arg	Leu	Ser
	50					55					60				
Leu	Met	Lys	Met	Ser	Ala	Ala	Leu	Phe	Pro	Leu	Val	Ser	Asp	Tyr	Tyr
65					70					75					80
Asn	Leu	Met	Asp	Val	Gly	Asn	Thr	Leu	Gly	Tyr	Asn	Ser	Gly	Pro	Ile
				85					90					95	
Val	Leu	Ser	Leu	Asp	Pro	Glu	Cys	Ser	Leu	Asp	Thr	Leu	Ala	Thr	Pro
			100					105					110		
Gly	Glu	Met	Thr	Thr	Ala	His	Ala	Leu	Cys	Lys	Leu	Tyr	Tyr	Pro	Lys
		115					120					125			
Ala	Lys	Leu	Ile	Pro	Met	Pro	Tyr	Asp	Lys	Ile	Leu	Ser	Ala	Ile	Leu
	130						135					140			

Gln	Gly	Lys	Val	Asp	Gly	Gly	Ala	Leu	Ile	His	Glu	Glu	Arg	Phe	Ser
145					150					155					160
Tyr	Asp	Leu	Gln	Leu	Thr	Leu	Arg	Ala	Asp	Phe	Gly	Glu	Leu	Trp	Arg
				165					170						175
Arg	Lys	Thr	Ile	Phe	Pro	Leu	Pro	Leu	Gly	Cys	Leu	Ala	Ile	Ala	Lys
			180					185					190		
Tyr	Val	Pro	Met	Ala	Thr	Val	Asp	Ala	Leu	Thr	Ala	Ala	Leu	Arg	Lys
	195						200					205			
Ser	Leu	Ile	Cys	Ser	Leu	Lys	Asp	Pro	Ile	Thr	Ala	Gly	Ala	Lys	Ala
	210					215					220				
Val	Glu	Tyr	Ser	Lys	Asn	Lys	Asn	Val	Thr	Val	Ile	His	Arg	Phe	Ile
225					230					235					240
Gly	Thr	Tyr	Ile	Asn	Lys	Glu	Thr	Phe	Gln	Leu	Ser	Lys	Thr	Gly	Lys
			245					250						255	
Lys	Ala	Leu	His	Met	Leu	Trp	Lys	Ala	Asn	Glu	Cys	Cys	Gln	Tyr	Thr
			260					265						270	

<210> 414

<211> 244

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0412

<400> 414

Glu	Pro	Ile	Ser	Thr	Lys	Lys	Pro	Phe	Asn	Tyr	Leu	Lys	Leu	Gly	Lys
1				5					10					15	
Lys	Leu	Tyr	Ile	Cys	Ser	Gly	Arg	Pro	Met	Asn	Ala	Val	Asn	Thr	Pro
			20					25					30		
Lys	Lys	Ile	Leu	Cys	Ile	Val	Ala	Asp	Tyr	Arg	Glu	Ile	Ser	Pro	Leu
		35				40						45			
Ile	Glu	Gln	Leu	Asp	Phe	Thr	Gln	Ile	Asn	Glu	His	Leu	Tyr	Ser	Tyr
	50					55					60				
Arg	Cys	Thr	Asp	Tyr	His	Leu	Asp	Leu	Tyr	Ile	Val	His	Val	Trp	Gly
65					70					75					80
Ser	Thr	Ala	Val	Leu	Asn	Ala	Leu	Gln	Ser	Tyr	Cys	Gln	Ala	Tyr	Thr
			85					90						95	
Asp	Tyr	Asp	Leu	Trp	Ile	Asn	Pro	Gly	Phe	Val	Gly	Ala	Cys	Ser	Pro
			100					105					110		
Glu	Ile	Pro	Leu	Gly	Gln	Cys	Tyr	Thr	Ile	Glu	Lys	Ile	Ala	Asn	Leu
		115					120					125			
Thr	Thr	Asp	Thr	Pro	Pro	Val	Leu	Ser	Glu	Asp	Pro	Pro	Tyr	Ile	Phe
		130				135						140			
Asp	Ala	Leu	Pro	Asp	Ser	Leu	Pro	Lys	Ser	Ser	Leu	Val	Thr	Ser	Pro
145					150					155					160
Val	Leu	Tyr	His	Tyr	Gly	Phe	His	Lys	Thr	Phe	Lys	Leu	Leu	Asp	Met
			165						170						175
Glu	Gly	Tyr	Ala	Ile	Ala	Ser	Gln	Ala	Ala	Glu	His	His	Ile	Pro	Cys
			180					185					190		
Ser	Phe	Leu	Lys	Ile	Thr	Ser	Asp	Tyr	Thr	Val	Pro	Gly	Asp	Cys	Pro
		195					200					205			
Phe	Ser	Arg	Leu	Glu	Glu	Val	Ser	Gln	Lys	Leu	Thr	Gln	Thr	Leu	Val
		210				215						220			
Glu	Leu	Leu	Pro	Glu	Leu	Met	Glu	Arg	Ala	Ile	Pro	Pro	Lys	Leu	Leu
225					230					235					240
Leu	Pro	Cys	Pro												

<210> 415
 <211> 661
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0413

<400> 415
 Val Phe Met Lys Leu Leu Leu Lys Ala Val Leu Arg His Lys Asn His
 1 5 10 15
 Leu Val Ile Leu Gly Cys Ser Leu Leu Ala Ile Leu Gly Leu Thr Phe
 20 25 30
 Ser Ser Gln Met Glu Ile Phe Ser Leu Gly Met Ile Ala Lys Thr Gly
 35 40 45
 Pro Asp Ala Phe Leu Leu Phe Gly Arg Lys Glu Ser Gly Lys Leu Val
 50 55 60
 Lys Val Ser Glu Leu Ser Gln Lys Asp Ile Leu Glu Asn Trp Gln Ala
 65 70 75 80
 Ile Ser Lys Asp Ser Glu Thr Leu Thr Val Ser Asp Ala Thr Thr Tyr
 85 90 95
 Ile Ala Glu His Gly Lys Ser Thr Ala Ser Leu Thr Ser Lys Leu Ser
 100 105 110
 Lys Phe Val Arg Asn Tyr Ile Asp Val Ser Arg Phe Arg Gly Leu Ala
 115 120 125
 Ile Phe Leu Ile Cys Val Ala Ile Phe Lys Ala Val Thr Leu Phe Phe
 130 135 140
 Gln Arg Phe Leu Gly Gln Val Val Ala Ile Arg Val Ser Arg Asp Leu
 145 150 155 160
 Arg Gln Asp Tyr Phe Lys Ala Leu Gln Gln Leu Pro Met Thr Phe Phe
 165 170 175
 His Asp His Asp Ile Gly Asn Leu Ser Asn Arg Val Met Thr Asp Ser
 180 185 190
 Ala Ser Ile Ala Leu Ala Val Asn Ser Leu Met Ile Asn Tyr Ile Gln
 195 200 205
 Ala Pro Ile Thr Phe Ile Leu Thr Leu Gly Val Cys Leu Ser Ile Ser
 210 215 220
 Trp Lys Phe Ser Ile Leu Ile Cys Val Ala Phe Pro Ile Phe Ile Leu
 225 230 235 240
 Pro Ile Val Val Ile Ala Arg Lys Ile Lys Asn Leu Ala Lys Arg Ile
 245 250 255
 Gln Lys Ser Gln Asp Ser Phe Ser Ser Val Leu Tyr Asp Phe Leu Ala
 260 265 270
 Gly Val Met Thr Val Lys Val Phe Arg Thr Glu Lys Phe Ala Phe Thr
 275 280 285
 Lys Tyr Cys Glu His Asn Asn Lys Ile Ser Ala Leu Glu Glu Lys Ser
 290 295 300
 Ala Ala Tyr Gly Leu Leu Pro Arg Pro Leu Leu His Thr Ile Ala Ser
 305 310 315 320
 Leu Phe Phe Ala Phe Val Val Val Ile Gly Ile Tyr Lys Phe Ala Ile
 325 330 335
 Pro Pro Glu Glu Leu Ile Val Phe Cys Gly Leu Leu Tyr Leu Ile Tyr
 340 345 350
 Asp Pro Ile Lys Lys Phe Gly Asp Glu Asn Thr Ser Ile Met Arg Gly
 355 360 365
 Cys Ala Ala Ala Glu Arg Phe Tyr Glu Val Leu Asn His Pro Asp Leu
 370 375 380
 His Ser Gln Lys Glu Arg Glu Ile Glu Phe Leu Gly Leu Ser Asn Thr
 385 390 395 400
 Ile Thr Phe Glu Asn Val Ser Phe Gly Tyr Gln Glu Asp Lys His Ile
 405 410 415

Leu Lys Asn Leu Ser Phe Thr Leu His Lys Gly Glu Ala Leu Gly Ile
 420 425 430
 Val Gly Pro Thr Gly Ser Gly Lys Thr Thr Leu Val Lys Leu Leu Pro
 435 440 445
 Arg Leu Tyr Glu Val Ser Gln Gly Lys Ile Leu Ile Asp Ser Leu Pro
 450 455 460
 Ile Thr Glu Tyr Asn Lys Gly Ser Leu Arg Asn His Ile Ala Cys Val
 465 470 475 480
 Leu Gln Asn Pro Phe Leu Phe Tyr Asp Thr Val Trp Asn Asn Leu Thr
 485 490 495
 Cys Gly Lys Asp Met Glu Glu Glu Ala Val Leu Glu Ala Leu Lys Arg
 500 505 510
 Ala Tyr Ala Asp Glu Phe Ile Leu Lys Leu Pro Lys Gly Val His Ser
 515 520 525
 Val Leu Glu Glu Ser Gly Lys Asn Leu Ser Gly Gly Gln Gln Gln Arg
 530 535 540
 Leu Ala Ile Ala Arg Ala Leu Leu Lys Asn Ala Ser Ile Leu Ile Leu
 545 550 555 560
 Asp Glu Ala Thr Ser Ala Leu Asp Ala Ile Ser Glu Asn Tyr Ile Lys
 565 570 575
 Asn Ile Ile Gly Glu Leu Lys Gly Gln Cys Thr Gln Ile Ile Ile Ala
 580 585 590
 His Lys Leu Thr Thr Leu Glu His Val Asp Arg Val Leu Tyr Ile Glu
 595 600 605
 Asn Gly Gln Lys Ile Ala Glu Gly Thr Lys Glu Glu Leu Leu Gln Thr
 610 615 620
 Cys Pro Glu Phe Leu Lys Met Trp Glu Leu Ser Gly Thr Lys Glu Tyr
 625 630 635 640
 Asn Arg Val Phe Val Pro Asp His Lys Leu Val Ala Asn Pro Thr Asp
 645 650 655
 Met Ala Ile Thr Thr
 660

<210> 416
 <211> 344
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0414

<400> 416
 Leu Cys Leu Arg Ile Val Cys Ile Lys Met Ile Leu Phe Ile Arg Gly
 1 5 10 15
 Glu His Ile Leu Met Glu Leu Leu Pro His Glu Lys Gln Val Val Glu
 20 25 30
 Tyr Glu Lys Ala Ile Ala Glu Phe Lys Glu Lys Asn Lys Lys Asn Ser
 35 40 45
 Leu Leu Ser Ser Ser Glu Ile Gln Lys Leu Glu Lys Arg Leu Asp Lys
 50 55 60
 Leu Lys Glu Lys Ile Tyr Ser Asp Leu Thr Pro Trp Glu Arg Val Gln
 65 70 75 80
 Ile Cys Arg His Pro Ser Arg Pro Arg Thr Val Asn Tyr Ile Glu Gly
 85 90 95
 Met Cys Glu Glu Phe Val Glu Leu Cys Gly Asp Arg Thr Phe Arg Asp
 100 105 110
 Asp Pro Ala Val Val Gly Gly Phe Val Lys Ile Gln Gly Gln Arg Phe
 115 120 125
 Val Leu Ile Gly Gln Glu Lys Gly Cys Asp Thr Ala Ser Arg Leu His
 130 135 140

Arg Asn Phe Gly Met Leu Cys Pro Glu Gly Phe Arg Lys Ala Leu Arg
 145 150 155 160
 Leu Gly Lys Leu Ala Glu Lys Phe Gly Leu Pro Val Val Phe Leu Val
 165 170 175
 Asp Thr Pro Gly Ala Tyr Pro Gly Leu Thr Ala Glu Glu Arg Gly Gln
 180 185 190
 Gly Trp Ala Ile Ala Lys Asn Leu Phe Glu Leu Ser Arg Leu Ala Thr
 195 200 205
 Pro Val Ile Ile Val Val Ile Gly Glu Gly Cys Ser Gly Gly Ala Leu
 210 215 220
 Gly Met Ala Val Gly Asp Ser Val Ala Met Leu Glu His Ser Tyr Tyr
 225 230 235 240
 Ser Val Ile Ser Pro Glu Gly Cys Ala Ser Ile Leu Trp Lys Asp Pro
 245 250 255
 Lys Lys Asn Ser Glu Ala Ala Ser Met Leu Lys Met His Gly Glu Asn
 260 265 270
 Leu Lys Gln Phe Gly Ile Ile Asp Thr Val Ile Lys Glu Pro Ile Gly
 275 280 285
 Gly Ala His His Asp Pro Ala Leu Val Tyr Ser Asn Val Arg Glu Phe
 290 295 300
 Ile Ile Gln Glu Trp Leu Arg Leu Lys Asp Leu Ala Ile Glu Glu Leu
 305 310 315 320
 Leu Glu Lys Arg Tyr Glu Lys Phe Arg Ser Ile Gly Leu Tyr Glu Thr
 325 330 335
 Thr Ser Glu Ser Gly Pro Glu Ala
 340

<210> 417
 <211> .434
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0415

<400> 417
 Ser Gln Thr Gly Phe Leu Pro Gly Leu Thr Leu Ile Phe Val Ile Ile
 1 5 10 15
 Ile Val Trp Cys Asn Ala Phe Leu Ile Lys Leu Cys Val Ile Met Gly
 20 25 30
 Leu Gln Ser Arg Leu Gln His Cys Ile Glu Val Ser Gln Asn Ser Asn
 35 40 45
 Phe Asp Ser Gln Val Lys Gln Phe Ile Tyr Ala Cys Gln Asp Lys Thr
 50 55 60
 Leu Arg Gln Ser Val Leu Lys Ile Phe Arg Tyr His Pro Leu Leu Lys
 65 70 75 80
 Ile His Asp Ile Ala Arg Ala Val Tyr Leu Leu Met Ala Leu Glu Glu
 85 90 95
 Gly Glu Asp Leu Gly Leu Ser Phe Leu Asn Val Gln Gln Tyr Pro Ser
 100 105 110
 Gly Ala Val Glu Leu Phe Ser Cys Gly Gly Phe Pro Trp Lys Gly Leu
 115 120 125
 Pro Tyr Pro Ala Glu His Ala Glu Phe Gly Leu Leu Leu Gln Ile
 130 135 140
 Ala Glu Phe Tyr Glu Glu Ser Gln Ala Tyr Val Ser Lys Met Ser His
 145 150 155 160
 Phe Gln Gln Ala Leu Phe Asp His Gln Gly Ser Val Phe Pro Ser Leu
 165 170 175
 Trp Ser Gln Glu Asn Ser Arg Leu Leu Lys Glu Lys Thr Thr Leu Ser
 180 185 190

Gln Ser Phe Leu Phe Gln Leu Gly Met Gln Ile His Pro Glu Tyr Ser
 195 200 205
 Leu Glu Asp Pro Ala Leu Gly Phe Trp Met Gln Arg Thr Arg Ser Ser
 210 215 220
 Ser Ala Phe Val Ala Ala Ser Gly Cys Gln Ser Ser Leu Gly Ala Tyr
 225 230 235 240
 Ser Ser Gly Asp Val Gly Val Ile Ala Tyr Gly Pro Cys Ser Gly Asp
 245 250 255
 Ile Ser Asp Cys Tyr Tyr Phe Gly Cys Cys Gly Ile Ala Lys Glu Phe
 260 265 270
 Val Cys Gln Lys Ser His Gln Thr Thr Glu Ile Ser Phe Leu Thr Ser
 275 280 285
 Thr Gly Lys Pro His Pro Arg Asn Thr Gly Phe Ser Tyr Leu Arg Asp
 290 295 300
 Ser Tyr Val His Leu Pro Ile Arg Cys Lys Ile Thr Ile Ser Asp Lys
 305 310 315 320
 Gln Tyr Arg Val His Ala Ala Leu Ala Glu Ala Thr Ser Ala Met Thr
 325 330 335
 Phe Ser Ile Phe Cys Lys Gly Lys Asn Cys Gln Val Val Asp Gly Pro
 340 345 350
 Arg Leu Arg Ser Cys Ser Leu Asp Ser Tyr Lys Gly Pro Gly Asn Asp
 355 360 365
 Ile Met Ile Leu Gly Glu Asn Asp Ala Ile Asn Ile Val Ser Ala Ser
 370 375 380
 Pro Tyr Met Glu Ile Phe Ala Leu Gln Gly Lys Glu Lys Phe Trp Asn
 385 390 395 400
 Ala Asp Phe Leu Ile Asn Ile Pro Tyr Lys Glu Glu Gly Val Met Leu
 405 410 415
 Ile Phe Glu Lys Lys Val Thr Ser Glu Lys Gly Arg Phe Phe Thr Lys
 420 425 430
 Met Asn

<210> 418
 <211> 105
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0416

<400> 418
 Glu Ala Leu Ser Asn Met Ala Thr Met Thr Lys Lys Lys Leu Ile Ser
 1 5 10 15
 Thr Ile Ser Gln Asp His Lys Ile His Pro Asn His Val Arg Thr Val
 20 25 30
 Ile Gln Asn Phe Leu Asp Lys Met Thr Asp Ala Leu Val Lys Gly Asp
 35 40 45
 Arg Leu Glu Phe Arg Asp Phe Gly Val Leu Gln Val Val Glu Arg Lys
 50 55 60
 Pro Lys Val Gly Arg Asn Pro Lys Asn Ala Ala Val Pro Ile His Ile
 65 70 75 80
 Pro Ala Arg Arg Ala Val Lys Phe Thr Pro Gly Lys Arg Met Lys Arg
 85 90 95
 Leu Ile Glu Thr Pro Asn Lys His Ser
 100 105

<210> 419
 <211> 268
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0417

<400> 419

Arg Glu Lys Gly Met Lys Leu Thr Lys Tyr Leu Asn Thr Lys Gln Leu
1 5 10 15
Arg Ser Met Ile Ser Arg Leu Phe Val Arg Tyr Ser Leu Pro Met Ser
20 25 30
Lys Gln Leu Ser Phe Phe Ala Leu Cys Val Leu Gly Ser His Pro Ile
35 40 45
Phe Ala Gln Thr Pro Asn Pro Gln Arg Val Arg Arg Ser Glu Val
50 55 60
Ile Phe Ile Asp Pro Gly His Gly Gly Lys Asp Gln Gly Thr Ala Ser
65 70 75 80
Lys Glu Leu His Tyr Glu Glu Lys Ser Leu Thr Leu Ser Leu Ala Leu
85 90 95
Thr Val Gln Ser Tyr Leu Lys Arg Met Gly Tyr Lys Pro Gln Leu Thr
100 105 110
Arg Ser Ser Asp Val Tyr Val Asp Leu Gly Lys Arg Val Ala Leu Ser
115 120 125
Asn Arg Gly Gln Gly Asp Val Phe Ile Ser Ile His Cys Asn His Ser
130 135 140
Ser Asn Ala Ala Ala Phe Gly Thr Glu Val Tyr Phe Tyr Asn Gly Lys
145 150 155 160
Val Gly Ser Pro Thr Arg Asn Arg Met Ser Glu Val Leu Gly Lys Asn
165 170 175
Ile Leu Ala Ala Met Glu Lys Asn Gly Ile Leu Lys Ser Arg Gly Leu
180 185 190
Lys Thr Ala Asn Phe Val Val Ile Arg Asp Thr Ser Met Pro Ala Val
195 200 205
Leu Val Glu Thr Gly Phe Leu Ser Asn Ser Arg Glu Arg Ala Ala Leu
210 215 220
Gln Asp Ala Arg Tyr Arg Met His Val Ala Lys Gly Ile Ala Glu Gly
225 230 235 240
Val His Asn Phe Leu Ser Gly Pro Ser Phe Gln Lys Pro Lys Gln Asn
245 250 255
Ile Ala Lys Ile Arg Lys Pro Gln Ile Gln Ala Asn
260 265

<210> 420

<211> 483

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0418

<400> 420

Met Asp Leu Lys Glu Leu Leu His Gly Val Gln Ala Lys Ile Tyr Gly
1 5 10 15
Lys Val Arg Pro Leu Glu Val Arg Asn Leu Thr Arg Asp Ser Arg Cys
20 25 30
Val Ser Val Gly Asp Ile Phe Ile Ala His Lys Gly Gln Arg Tyr Asp
35 40 45
Gly Asn Asp Phe Ala Val Asp Ala Leu Ala Asn Gly Ala Ile Ala Ile
50 55 60
Ala Ser Ser Leu Tyr Asn Pro Phe Leu Ser Val Val Gln Ile Ile Thr
65 70 75 80
Pro Asn Leu Glu Glu Leu Glu Ala Glu Leu Ser Ala Lys Tyr Tyr Glu
85 90 95

Tyr Pro Ser Ser Lys Leu His Thr Ile Gly Val Thr Gly Thr Asn Gly
 100 105 110
 Lys Thr Thr Val Thr Cys Leu Ile Lys Ala Leu Leu Asp Ser Tyr Gln
 115 120 125
 Lys Pro Ser Gly Leu Leu Gly Thr Ile Glu His Ile Leu Gly Glu Gly
 130 135 140
 Val Ile Lys Asp Gly Phe Thr Thr Pro Thr Pro Ala Leu Leu Gln Lys
 145 150 155 160
 Tyr Leu Ala Thr Met Val Arg Gln Asn Arg Asp Ala Val Val Met Glu
 165 170 175
 Val Ser Ser Ile Gly Leu Ala Ser Gly Arg Val Ala Tyr Thr Asn Phe
 180 185 190
 Asp Thr Ala Val Leu Thr Asn Ile Thr Leu Asp His Leu Asp Phe His
 195 200 205
 Gly Thr Phe Glu Thr Tyr Val Ala Ala Lys Ala Lys Leu Phe Ser Leu
 210 215 220
 Val Pro Pro Ser Gly Met Val Val Ile Asn Thr Asp Ser Pro Tyr Ala
 225 230 235 240
 Ser Gln Cys Ile Glu Ser Ala Lys Ala Pro Val Ile Thr Tyr Gly Ile
 245 250 255
 Glu Ser Ala Ala Asp Tyr Arg Ala Thr Asp Ile Gln Leu Ser Ser Ser
 260 265 270
 Gly Thr Lys Tyr Thr Leu Val Tyr Gly Asp Gln Lys Ile Ala Cys Ser
 275 280 285
 Ser Ser Phe Ile Gly Lys Tyr Asn Val Tyr Asn Leu Leu Ala Ala Ile
 290 295 300
 Ser Thr Val His Ala Ser Leu Arg Cys Asp Leu Glu Asp Leu Leu Glu
 305 310 315 320
 Lys Ile Gly Leu Cys Gln Pro Pro Pro Gly Arg Leu Asp Pro Val Leu
 325 330 335
 Met Gly Pro Cys Pro Val Tyr Ile Asp Tyr Ala His Thr Pro Asp Ala
 340 345 350
 Leu Asp Asn Val Leu Thr Gly Leu His Glu Leu Leu Pro Glu Gly Gly
 355 360 365
 Arg Leu Ile Val Val Phe Gly Cys Gly Gly Asp Arg Asp Arg Ser Lys
 370 375 380
 Arg Lys Leu Met Ala Gln Val Val Glu Arg Tyr Gly Phe Ala Val Val
 385 390 395 400
 Thr Ser Asp Asn Pro Arg Ser Glu Pro Pro Glu Asp Ile Val Asn Glu
 405 410 415
 Ile Cys Asp Gly Phe Tyr Ser Lys Asn Tyr Phe Ile Glu Ile Asp Arg
 420 425 430
 Lys Gln Ala Ile Thr Tyr Ala Leu Ser Ile Ala Ser Asp Arg Asp Ile
 435 440 445
 Val Leu Ile Ala Gly Lys Gly His Glu Ala Tyr Gln Ile Phe Lys His
 450 455 460
 Gln Thr Val Ala Phe Asp Asp Lys Gln Thr Val Cys Glu Val Leu Ala
 465 470 475 480
 Ser Tyr Val

<210> 421
 <211> 674
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0419

<400> 421

Gln	Leu	Phe	Pro	Asn	Thr	Asn	Ile	Trp	Asn	Ile	Pro	Gln	Lys	Lys	Val
1				5					10					15	
Ser	Val	Phe	Tyr	Pro	Met	Ser	Tyr	Arg	Lys	Arg	Ser	Thr	Leu	Ile	Val
			20					25					30		
Leu	Gly	Val	Phe	Ala	Leu	Tyr	Ala	Leu	Leu	Val	Leu	Arg	Tyr	Tyr	Lys
		35					40					45			
Ile	Gln	Ile	Cys	Glu	Gly	Asp	His	Trp	Ala	Ala	Glu	Ala	Leu	Gly	Gln
	50					55					60				
His	Glu	Phe	Cys	Val	Arg	Asp	Pro	Phe	Arg	Arg	Gly	Thr	Phe	Phe	Ala
65					70					75					80
Asn	Thr	Thr	Val	Arg	Lys	Gly	Asp	Lys	Asp	Leu	Gln	Gln	Pro	Phe	Ala
				85				90						95	
Val	Asp	Ile	Thr	Lys	Phe	His	Leu	Cys	Ala	Asp	Pro	Leu	Ala	Ile	Pro
			100					105					110		
Glu	Cys	His	Arg	Asp	Glu	Ile	Ile	Gln	Gly	Ile	Leu	Gln	Phe	Ile	Glu
		115					120					125			
Gly	Gln	Thr	Tyr	Asp	Asp	Leu	Ser	Leu	Lys	Leu	Asp	Lys	Lys	Ser	Arg
	130					135					140				
Tyr	Cys	Lys	Leu	Tyr	Pro	Leu	Leu	Asp	Val	Ser	Val	His	Asp	Arg	Leu
145					150					155					160
Ser	Leu	Trp	Trp	Lys	Gly	Tyr	Ala	Thr	Lys	His	Arg	Leu	Pro	Thr	Asn
				165					170					175	
Ala	Leu	Phe	Phe	Ile	Thr	Asp	Tyr	Gln	Arg	Ser	Tyr	Pro	Phe	Gly	Lys
			180					185					190		
Leu	Leu	Gly	Gln	Val	Leu	His	Thr	Leu	Arg	Glu	Ile	Lys	Asp	Glu	Lys
		195					200					205			
Thr	Gly	Lys	Ala	Phe	Pro	Thr	Gly	Gly	Met	Glu	Ala	Tyr	Phe	Asn	His
	210						215				220				
Ile	Leu	Glu	Gly	Asp	Val	Gly	Glu	Arg	Lys	Leu	Leu	Arg	Ser	Pro	Leu
225					230					235					240
Asn	Arg	Leu	Asp	Thr	Asn	Arg	Val	Ile	Lys	Leu	Pro	Lys	Asp	Gly	Ser
				245					250					255	
Asp	Ile	Tyr	Leu	Thr	Ile	Asn	Pro	Val	Ile	Gln	Thr	Ile	Ala	Glu	Glu
			260					265					270		
Glu	Leu	Glu	Arg	Gly	Val	Leu	Glu	Ala	Lys	Ala	Gln	Gly	Gly	Arg	Leu
		275					280					285			
Ile	Leu	Met	Asn	Ser	Gln	Thr	Gly	Glu	Ile	Leu	Ala	Leu	Ala	Gln	Tyr
	290					295					300				
Pro	Phe	Phe	Asp	Pro	Thr	Asn	Tyr	Lys	Glu	Tyr	Phe	Asn	Asn	Lys	Glu
305					310					315					320
Arg	Ile	Glu	His	Thr	Lys	Val	Ser	Phe	Val	Ser	Asp	Val	Phe	Glu	Pro
				325					330					335	
Gly	Ser	Ile	Met	Lys	Pro	Leu	Thr	Val	Ala	Ile	Ala	Leu	Gln	Ala	Asn
			340					345					350		
Glu	Glu	Ala	Ser	Leu	Lys	Ser	Gln	Lys	Lys	Ile	Phe	Asp	Pro	Glu	Glu
		355					360					365			
Pro	Ile	Asp	Val	Thr	Arg	Thr	Leu	Phe	Pro	Gly	Arg	Lys	Gly	Ser	Pro
	370					375					380				
Leu	Lys	Asp	Ile	Ser	Arg	Asn	Ser	Gln	Leu	Asn	Met	Tyr	Met	Ala	Ile
385					390					395					400
Gln	Lys	Ser	Ser	Asn	Val	Tyr	Val	Ala	Gln	Leu	Ala	Asp	Arg	Ile	Ile
				405					410					415	
Gln	Ser	Leu	Gly	Val	Ala	Trp	Tyr	Gln	Gln	Lys	Leu	Leu	Ala	Leu	Gly
			420					425					430		
Phe	Gly	Arg	Lys	Thr	Gly	Ile	Glu	Leu	Pro	Ser	Glu	Ala	Ser	Gly	Leu
		435					440					445			
Val	Pro	Ser	Pro	His	Arg	Phe	His	Ile	Asn	Gly	Ser	Leu	Glu	Trp	Ser
	450					455					460				
Leu	Ser	Thr	Pro	Tyr	Ser	Leu	Ala	Met	Gly	Tyr	Asn	Ile	Leu	Ala	Thr
465					470					475					480

Gly Ile Gln Met Val Gln Ala Tyr Ala Ile Leu Ala Asn Gly Gly Tyr
 485 490 495
 Ala Val Arg Pro Thr Leu Val Lys Lys Ile Val Ser Ala Ser Gly Glu
 500 505 510
 Glu Tyr His Leu Pro Thr Lys Glu Lys Thr Arg Leu Phe Ser Glu Glu
 515 520 525
 Ile Thr Arg Glu Val Val Arg Ala Met Arg Phe Thr Thr Leu Pro Gly
 530 535 540
 Gly Ser Gly Phe Arg Ala Ser Pro Lys His His Ser Ser Ala Gly Lys
 545 550 555 560
 Thr Gly Thr Thr Glu Lys Met Ile His Gly Lys Tyr Asp Lys Arg Arg
 565 570 575
 His Ile Ala Ser Phe Ile Gly Phe Thr Pro Val Glu Ser Ser Glu Gly
 580 585 590
 Asn Phe Pro Pro Leu Val Met Leu Val Ser Ile Asp Asp Pro Glu Tyr
 595 600 605
 Gly Leu Arg Ala Asp Gly Thr Lys Asn Tyr Met Gly Gly Arg Cys Ala
 610 615 620
 Ala Pro Ile Phe Ser Arg Val Ala Asp Arg Thr Leu Leu Tyr Leu Gly
 625 630 635 640
 Ile Leu Pro Asp Lys Lys Leu Arg Asn Cys Asp Glu Glu Ala Ala Ala
 645 650 655
 Leu Lys Arg Leu Tyr Glu Glu Trp Asn Arg Ser Pro Lys Gln Gly Gly
 660 665 670
 Thr Arg

<210> 422
 <211> 99
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0420

 <400> 422
 Lys Ser Phe Pro Met Asn Lys Ser Arg Phe Leu Arg Leu Cys Cys Cys
 1 5 10 15
 Leu Cys Phe Cys Gly Ser Leu Phe Tyr Phe Tyr Ile Asn Lys Gln Asn
 20 25 30
 Ser Leu Thr Lys Leu Arg Leu Glu Ile Pro Cys Leu Ser Val Arg Leu
 35 40 45
 Arg Gln Leu Glu Gln Gln Asn Ile Ser Leu Arg Phe Leu Ile Asp Lys
 50 55 60
 Ile Glu Arg Pro Asp His Leu Met Glu Ile Ala Ala Leu Pro Glu Tyr
 65 70 75 80
 Gln Tyr Leu Glu Tyr Pro Ser Glu Glu Ser Ile Ser Leu Leu Ser Tyr
 85 90 95
 Glu Leu Pro

<210> 423
 <211> 300
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0421

<400> 423

Glu	Ile	Leu	Met	Ser	Glu	Arg	Ala	His	Ile	Pro	Val	Leu	Val	Glu	Glu
1				5					10					15	
Cys	Leu	Ala	Leu	Phe	Ala	Gln	Arg	Pro	Pro	Gln	Thr	Phe	Arg	Asp	Val
			20					25					30		
Thr	Leu	Gly	Ala	Gly	Gly	His	Ala	Tyr	Ala	Phe	Leu	Glu	Ala	Tyr	Pro
		35					40					45			
Ser	Leu	Thr	Cys	Tyr	Asp	Gly	Ser	Asp	Arg	Asp	Leu	Gln	Ala	Leu	Ala
	50				55					60					
Ile	Ala	Glu	Lys	Arg	Leu	Glu	Thr	Phe	Gln	Asp	Arg	Val	Ser	Phe	Ser
65				70					75					80	
His	Ala	Ser	Phe	Glu	Asp	Leu	Ala	Asn	Gln	Pro	Thr	Pro	Arg	Leu	Tyr
			85					90					95		
Asp	Gly	Val	Leu	Ala	Asp	Leu	Gly	Val	Ser	Ser	Met	Gln	Leu	Asp	Thr
			100					105					110		
Leu	Ser	Arg	Gly	Phe	Ser	Phe	Gln	Gly	Glu	Lys	Glu	Glu	Leu	Asp	Met
		115					120					125			
Arg	Met	Asp	Gln	Thr	Gln	Glu	Leu	Ser	Ala	Ser	Asp	Val	Leu	Asn	Ser
	130				135						140				
Leu	Lys	Glu	Glu	Glu	Leu	Gly	Arg	Ile	Phe	Arg	Glu	Tyr	Gly	Glu	Glu
145				150					155					160	
Pro	Gln	Trp	Lys	Ser	Ala	Ala	Lys	Ala	Val	Val	His	Phe	Arg	Lys	His
			165					170					175		
Lys	Lys	Ile	Leu	Ser	Ile	Gln	Asp	Val	Lys	Glu	Ala	Leu	Leu	Gly	Val
		180					185					190			
Phe	Pro	His	Tyr	Arg	Phe	His	Arg	Lys	Ile	His	Pro	Leu	Thr	Leu	Ile
		195				200					205				
Phe	Gln	Ala	Leu	Arg	Val	Tyr	Val	Asn	Gly	Glu	Asp	Arg	Gln	Leu	Lys
	210				215					220					
Ser	Leu	Leu	Thr	Ser	Ala	Ile	Ser	Trp	Leu	Ala	Pro	Gln	Gly	Arg	Leu
225				230					235					240	
Val	Ile	Ile	Ser	Phe	Cys	Ser	Ser	Glu	Asp	Arg	Pro	Val	Lys	Trp	Phe
			245					250					255		
Phe	Lys	Glu	Ala	Glu	Ala	Ser	Gly	Leu	Gly	Lys	Val	Ile	Thr	Lys	Lys
		260					265					270			
Val	Ile	Gln	Pro	Thr	Tyr	Gln	Glu	Val	Arg	Arg	Asn	Pro	Arg	Ser	Arg
	275					280					285				
Ser	Ala	Lys	Leu	Arg	Cys	Phe	Glu	Lys	Ala	Ser	Gln				
	290				295						300				

<210> 424
 <211> 184
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0422

<400> 424

Gly	Leu	Ala	Met	Val	Glu	Ile	Phe	Asn	Tyr	Ser	Thr	Ser	Ile	Tyr	Glu
1				5					10					15	
Gln	His	Ala	Ser	Asn	Asn	Arg	Ile	Val	Ser	Asp	Phe	Arg	Lys	Glu	Ile
		20					25						30		
Gln	Met	Glu	Gly	Ile	Ser	Ile	Arg	Asp	Val	Ala	Lys	His	Ala	Gln	Ile
	35					40					45				
Leu	Asp	Met	Asn	Pro	Lys	Pro	Ser	Ala	Leu	Thr	Ser	Leu	Leu	Gln	Thr
	50				55					60					
Asn	Gln	Lys	Ser	His	Trp	Ala	Cys	Phe	Ser	Pro	Pro	Asn	Asn	Phe	Tyr
65				70					75					80	
Lys	Gln	Arg	Phe	Ser	Thr	Pro	Tyr	Leu	Ala	Pro	Ser	Leu	Gly	Ser	Pro
			85					90					95		

Asp Gln Gln Asp Glu Asp Ile Glu Lys Ile Ser Ser Phe Leu Lys Val
 100 105 110
 Leu Thr Arg Gly Lys Phe Ser Tyr Arg Ser Gln Ile Thr Pro Phe Leu
 115 120 125
 Ser Tyr Lys Asp Lys Glu Glu Glu Glu Asp Glu Asp Pro Glu Glu Asp
 130 135 140
 Asp Asp Asp Pro Arg Val Gln Gln Gly Lys Val Leu Leu Lys Ala Leu
 145 150 155 160
 Asp Leu Gly Val Lys Ser Thr Asn Val Met Ile Asp Tyr Val Ile Ser
 165 170 175
 Arg Ile Phe Gln Phe Val Gln Gly
 180

<210> 425
 <211> 143
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0423

<400> 425
 Cys Met Leu Asp Asn Glu Trp Lys Ala Ile Leu Gly Trp Gly Asp Asp
 1 5 10 15
 Glu Leu Glu Glu Leu Arg Ile Ser Gly Tyr Ser Phe Leu Arg Gln Gly
 20 25 30
 His Tyr Ser Lys Ala Ile Leu Phe Glu Ala Leu Val Ile Leu Asp
 35 40 45
 Pro Leu Ser Ile Tyr Asp His Gln Thr Leu Gly Gly Leu Tyr Leu Gln
 50 55 60
 Ile Gly Glu Asn Ser Gln Ala Leu Ala Val Leu Asp Gln Ala Leu Arg
 65 70 75 80
 Met Gln Gly Asp His Leu Pro Thr Leu Leu Asn Lys Thr Lys Ala Leu
 85 90 95
 Phe Cys Leu Gly Arg Ile Glu Glu Ala Thr Ala Ile Ala Thr Tyr Leu
 100 105 110
 Ser Ser Cys Pro Ile Pro Ala Ile Ala Asn Asp Ala Glu Ala Leu Leu
 115 120 125
 Met Ser Tyr Ser Lys Ala Thr Lys Lys Asn Ala Ala Leu Val Arg
 130 135 140

<210> 426
 <211> 479
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0424

<400> 426
 Ser Arg Cys Asn Glu Ile Phe Ser Pro Ser Leu Met Gly Trp Val Asp
 1 5 10 15
 Cys Ile Trp Trp Glu Ser Phe Ile Asn Phe Glu Ser Gly Met Leu Thr
 20 25 30
 Cys Asn Glu Cys Thr Thr Trp Glu Gln Phe Leu Asn Tyr Val Lys Thr
 35 40 45
 Arg Cys Ser Lys Thr Ala Phe Glu Asn Trp Ile Ser Pro Ile Gln Val
 50 55 60
 Leu Glu Glu Thr Gln Glu Lys Ile Arg Leu Glu Val Pro Asn Ile Phe
 65 70 75 80

<400> 427

Phe	Arg	Gly	Cys	Pro	Met	Phe	Arg	Arg	Thr	Gly	Lys	Gly	Pro	Phe	Glu
1				5					10					15	
Asp	Val	Gln	Thr	Leu	Tyr	Glu	Glu	Glu	Thr	Ser	Ser	Pro	Ser	Ser	Tyr
			20					25					30		
Ser	Pro	Tyr	Ser	Arg	Ser	Glu	Arg	Pro	Glu	Thr	Pro	Pro	Ser	Leu	Phe
		35					40					45			
Asp	Asn	Pro	Lys	Ala	Ser	Glu	Ala	Arg	Pro	Leu	Asn	His	Asn	Leu	Thr
	50					55					60				
Glu	Glu	Ser	Ser	Leu	Pro	Gln	Trp	Ser	Ser	Thr	Pro	Arg	Thr	Glu	Ser
65					70					75				80	
Leu	Leu	Pro	Leu	Glu	Pro	Glu	Thr	Thr	Leu	Gly	Glu	Gly	Val	Thr	
				85				90					95		
Phe	Lys	Gly	Glu	Leu	Ala	Phe	Glu	Arg	Leu	Leu	Arg	Ile	Asp	Gly	Thr
			100					105					110		
Phe	Glu	Gly	Ile	Leu	Val	Ser	Lys	Gly	Lys	Ile	Ile	Ile	Gly	Pro	Lys
		115					120					125			
Gly	Val	Val	Lys	Ala	Asp	Ile	Gln	Leu	Gln	Glu	Ala	Ile	Ile	Glu	Gly
	130					135					140				
Val	Val	Glu	Gly	Asn	Ile	Thr	Val	Ser	Gly	Lys	Val	Glu	Leu	Arg	Gly
145					150					155				160	
Gly	Ala	Ile	Ile	Lys	Gly	Asp	Ile	Gln	Ala	Asn	Thr	Leu	Cys	Val	Asp
				165					170					175	
Glu	Gly	Val	Arg	Ile	Leu	Gly	Tyr	Leu	Ala	Ile	Ala	Gly	Ile	Thr	Asp
			180					185					190		
His	Ser	Glu	Arg	Glu	Arg	Asp	Leu								
		195					200								

<210> 428
 <211> 192
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0426

<400> 428

Met	Val	Leu	Phe	Ser	Leu	Leu	Phe	Pro	Lys	Leu	Cys	Tyr	Gly	Cys	Gln
1				5					10					15	
Ala	Pro	Gly	Ala	Tyr	Phe	Cys	Ser	Asn	Cys	Leu	Glu	Lys	Leu	Leu	Val
			20					25					30		
Glu	Asp	Arg	Glu	Gly	Arg	Cys	Leu	His	Cys	Phe	Arg	Tyr	Leu	Gly	Ser
		35					40					45			
Ser	Glu	Thr	Arg	Leu	Cys	Ser	Gln	Cys	Ser	Pro	Ser	Ser	Gln	Leu	Gln
	50					55					60				
Ala	Phe	Ser	Leu	Tyr	Leu	Pro	Ser	Gln	Thr	Ala	Leu	Ser	Val	Tyr	Ala
65					70					75				80	
Arg	Ala	Cys	Glu	Gly	Lys	Arg	Pro	Ala	Leu	Gln	Phe	Phe	Ser	Lys	Ser
			85					90					95		
Ile	Ala	Phe	Glu	Leu	Ala	Ser	Leu	Asp	Glu	Thr	Pro	Ser	Cys	Ile	Ala
			100					105					110		
Tyr	Ile	Thr	Ser	Thr	Ile	Ser	Arg	Lys	Ile	Val	Val	Glu	Val	Ala	Lys
		115					120					125			
Leu	Glu	Lys	Leu	Leu	Arg	Ile	Pro	Leu	Trp	Pro	Trp	Leu	Pro	Lys	Lys
	130					135					140				
Arg	Gln	Ile	Glu	Lys	Leu	Pro	Lys	Gly	Glu	Gly	Ile	Cys	Phe	Leu	Ser
145					150					155				160	
Ala	Tyr	Pro	Leu	Ser	Gln	Lys	Trp	Met	Gln	Thr	Ile	Val	Gly	Gly	Ser
				165					170					175	
Ala	Ser	Pro	Leu	Val	Ser	Ile	Ser	Leu	Phe	Leu	Ser	Gln	Asn	Asp	Gln
			180					185					190		

<210> 429
 <211> 521
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0427

<400> 429
 Ala Val Cys Tyr Val Phe Glu Arg Val Glu Ala Ser Thr Phe Leu Ser
 1 5 10 15
 Ile Thr Met Leu Lys Lys Phe Ile Asn Ser Leu Trp Lys Leu Cys Gln
 20 25 30
 Gln Asp Lys Tyr Gln Arg Phe Thr Pro Ile Val Asp Ala Ile Asp Thr
 35 40 45
 Phe Cys Tyr Glu Pro Ile Glu Thr Pro Ser Lys Pro Pro Phe Ile Arg
 50 55 60
 Asp Ser Val Asp Val Lys Arg Trp Met Met Leu Val Val Ile Ala Leu
 65 70 75 80
 Phe Pro Ala Thr Phe Val Ala Ile Trp Asn Ser Gly Leu Gln Ser Ile
 85 90 95
 Val Tyr Ser Ser Gly Asn Pro Val Leu Met Glu Gln Phe Leu His Ile
 100 105 110
 Ser Gly Phe Gly Ser Tyr Leu Ser Phe Val Tyr Lys Glu Ile His Ile
 115 120 125
 Val Pro Ile Leu Trp Glu Gly Leu Lys Ile Phe Ile Pro Leu Leu Thr
 130 135 140
 Ile Ser Tyr Val Val Gly Gly Thr Cys Glu Val Leu Phe Ala Val Val
 145 150 155 160
 Arg Gly His Lys Ile Ala Glu Gly Leu Leu Val Thr Gly Ile Leu Tyr
 165 170 175
 Pro Leu Thr Leu Pro Pro Thr Ile Pro Tyr Trp Met Ala Ala Leu Gly
 180 185 190
 Ile Ala Phe Gly Ile Val Val Ser Lys Glu Leu Phe Gly Gly Thr Gly
 195 200 205
 Met Asn Ile Leu Asn Pro Ala Leu Ser Gly Arg Ala Phe Leu Phe Phe
 210 215 220
 Thr Phe Pro Ala Lys Met Ser Gly Asp Val Trp Val Gly Ser Asn Pro
 225 230 235 240
 Gly Val Ile Lys Asp Ser Leu Met Lys Met Asn Ser Ser Thr Gly Lys
 245 250 255
 Val Leu Ile Asp Gly Phe Ser Gln Ser Thr Cys Leu Gln Thr Leu Asn
 260 265 270
 Ser Thr Pro Pro Ser Val Lys Arg Leu His Val Asp Ala Ile Ala Ala
 275 280 285
 Asn Met Leu His Ile Pro His Val Pro Thr Gln Asp Val Ile His Ser
 290 295 300
 Gln Phe Ser Leu Trp Thr Glu Thr His Pro Gly Trp Val Leu Asp Asn
 305 310 315 320
 Leu Thr Leu Thr Gln Leu Gln Thr Phe Val Thr Ala Pro Val Ala Glu
 325 330 335
 Gly Gly Leu Gly Leu Leu Pro Thr Gln Phe Asp Ser Ala Tyr Ala Ile
 340 345 350
 Thr Asp Val Ile Tyr Gly Ile Gly Lys Phe Ser Ala Gly Asn Leu Phe
 355 360 365
 Trp Gly Asn Ile Ile Gly Ser Leu Gly Glu Thr Ser Thr Phe Ala Cys
 370 375 380
 Leu Leu Gly Ala Ile Phe Leu Ile Val Thr Gly Ile Ala Ser Trp Arg
 385 390 395 400
 Thr Met Ala Ala Phe Gly Ile Gly Ala Phe Leu Thr Gly Trp Leu Phe
 405 410 415

Lys Phe Ile Ser Val Leu Ile Val Gly Gln Asn Gly Ala Trp Ala Pro
 420 425 430
 Ala Arg Phe Phe Ile Pro Ala Tyr Arg Gln Leu Phe Leu Gly Gly Leu
 435 440 445
 Ala Phe Gly Leu Val Phe Met Ala Thr Asp Pro Val Ser Ser Pro Thr
 450 455 460
 Met Lys Leu Gly Lys Trp Ile Tyr Gly Phe Phe Ile Gly Phe Met Thr
 465 470 475 480
 Ile Val Ile Arg Leu Ile Asn Pro Ala Tyr Pro Glu Gly Val Met Leu
 485 490 495
 Ala Ile Leu Leu Gly Asn Val Phe Ala Pro Leu Ile Asp Tyr Phe Ala
 500 505 510
 Val Arg Lys Tyr Arg Lys Arg Gly Val
 515 520

<210> 430
 <211> 321
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0428

<400> 430
 Asn Met Ser Lys Gly Ser Ser Lys His Thr Val Arg Ile Asn Gln Thr
 1 5 10 15
 Trp Tyr Ile Val Ser Phe Ile Leu Gly Leu Ser Leu Phe Ala Gly Val
 20 25 30
 Leu Leu Ser Thr Ile Tyr Tyr Val Leu Ser Pro Ile Gln Glu Gln Ala
 35 40 45
 Ala Thr Phe Asp Arg Asn Lys Gln Met Leu Leu Ala Ala His Ile Leu
 50 55 60
 Asp Phe Lys Gly Arg Phe Gln Ile Gln Glu Lys Lys Glu Trp Val Pro
 65 70 75 80
 Ala Thr Phe Asp Lys Lys Thr Gln Leu Leu Glu Val Ala Thr Lys Lys
 85 90 95
 Val Ser Glu Val Ser Tyr Pro Glu Leu Glu Leu Tyr Ala Glu Arg Phe
 100 105 110
 Val Arg Pro Leu Leu Thr Asp Ala Gln Gly Lys Val Phe Ser Phe Glu
 115 120 125
 Glu Lys Asn Leu Asn Pro Ile Glu Phe Phe Glu Lys Tyr Gln Glu Ser
 130 135 140
 Pro Pro Cys Gln Gln Ser Pro Leu Pro Phe Tyr Val Ile Leu Glu Asn
 145 150 155 160
 Thr Ser Arg Thr Glu Asn Met Ser Gly Ala Asp Val Ala Lys Asp Leu
 165 170 175
 Ser Thr Val Gln Ala Leu Ile Phe Pro Ile Ser Gly Phe Gly Leu Trp
 180 185 190
 Gly Pro Ile His Gly Tyr Leu Gly Val Lys Asn Asp Gly Asp Thr Val
 195 200 205
 Leu Gly Thr Ala Trp Tyr Gln Gln Gly Glu Thr Pro Gly Leu Gly Ala
 210 215 220
 Asn Ile Thr Asn Pro Glu Trp Gln Glu Gln Phe Tyr Gly Lys Lys Ile
 225 230 235 240
 Phe Leu Gln Asp Ser Ser Gly Thr Thr Asn Phe Ala Thr Thr Asp Leu
 245 250 255
 Gly Leu Glu Val Val Lys Gly Ser Val Arg Thr Thr Leu Gly Asp Ser
 260 265 270
 Pro Lys Ala Leu Ser Ala Ile Asp Gly Ile Ser Gly Ala Thr Leu Thr
 275 280 285

Cys Asn Gly Val Thr Glu Ala Tyr Val Gln Ser Leu Ala Cys Tyr Arg
 290 295 300
 Gln Leu Leu Ile Asn Phe Ser Asn Leu Thr His Glu Lys Lys Thr Gly
 305 310 315 320
 Glu

<210> 431
 <211> 218
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0429

<400> 431
 Lys Glu Asn Arg Arg Met Thr Ser Lys Lys Ser Tyr Lys Ser Tyr Phe
 1 5 10 15
 Phe Asp Pro Leu Trp Ser Asn Asn Gln Ile Leu Ile Ala Ile Leu Gly
 20 25 30
 Ile Cys Ser Ala Leu Ala Val Thr Thr Thr Val Gln Thr Ala Ile Thr
 35 40 45
 Met Gly Ile Ala Val Ser Ile Val Thr Gly Cys Ser Ser Phe Phe Val
 50 55 60
 Ser Leu Leu Arg Lys Phe Thr Pro Asp Ser Val Arg Met Ile Thr Gln
 65 70 75 80
 Leu Ile Ile Ile Ser Leu Phe Val Ile Val Ile Asp Gln Phe Leu Lys
 85 90 95
 Ala Phe Phe Phe Asp Ile Ser Lys Thr Leu Ser Val Phe Val Gly Leu
 100 105 110
 Ile Ile Thr Asn Cys Ile Val Met Gly Arg Ser Glu Ser Leu Ala Arg
 115 120 125
 His Val Thr Pro Ile Pro Ala Phe Leu Asp Gly Phe Ala Ser Gly Leu
 130 135 140
 Gly Tyr Gly Trp Val Leu Leu Val Ile Gly Val Ile Arg Glu Leu Phe
 145 150 155 160
 Gly Phe Gly Thr Leu Met Gly Phe Arg Ile Ile Pro Gln Phe Val Tyr
 165 170 175
 Ala Ser Glu Thr His Pro Asp Gly Tyr Gln Asn Leu Ser Leu Met Val
 180 185 190
 Leu Ala Pro Ser Ala Phe Phe Leu Leu Gly Ile Met Ile Trp Leu Val
 195 200 205
 Asn Ile Arg Asp Ser Lys Lys Arg Lys Arg
 210 215

<210> 432
 <211> 257
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0430

<400> 432
 Phe Met Trp Leu Gly Ala Tyr Thr Trp Leu Asn Val Phe Gly Ile Leu
 1 5 10 15
 Leu Gln Ala Ala Phe Ile Gln Asn Ile Leu Leu Ala Asn Phe Leu Gly
 20 25 30
 Met Cys Ser Tyr Leu Ala Cys Ser Thr Arg Val Ser Thr Ala Asn Gly
 35 40 45

Leu Gly Met Ser Val Ala Leu Val Leu Thr Val Thr Gly Ser Ile Asn
 50 55 60
 Trp Phe Val His Ala Phe Ile Thr Gly Pro Lys Ala Leu Thr Trp Ile
 65 70 75 80
 Ser Pro Ser Leu Ala Ser Val Asn Leu Gly Phe Leu Glu Leu Ile Ile
 85 90 95
 Phe Ile Val Val Ile Ala Ala Phe Thr Gln Ile Leu Glu Leu Leu Leu
 100 105 110
 Glu Lys Val Ser Arg Asn Leu Tyr Leu Ser Leu Gly Ile Phe Leu Pro
 115 120 125
 Leu Ile Ala Val Asn Cys Ala Ile Leu Gly Gly Val Leu Phe Gly Ile
 130 135 140
 Thr Arg Ser Tyr Pro Phe Ile Pro Met Met Ile Phe Ser Leu Gly Ala
 145 150 155 160
 Gly Cys Gly Trp Trp Leu Ala Ile Val Ile Leu Ala Thr Ile Lys Glu
 165 170 175
 Lys Leu Ala Tyr Ser Asp Ile Pro Lys Asn Leu Gln Gly Met Gly Ile
 180 185 190
 Ser Phe Ile Thr Thr Gly Leu Ile Ala Met Ala Phe Met Ser Leu Thr
 195 200 205
 Gly Ile Asp Ile Ser Lys Pro Ser Ala Lys Ile Gln Arg Ala Pro Leu
 210 215 220
 Glu Thr Glu Val Val Glu Asn Thr Thr Asn Pro Leu Lys Glu Ser Ser
 225 230 235 240
 Ser Lys His Gln Pro Ser Ile Ser Lys Ala Arg Thr Gln Arg Arg Ser
 245 250 255
 Leu

<210> 433
 <211> 113
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0431

<400> 433
 Lys Ile Met Thr Thr Leu Pro Lys Tyr Val Pro Arg Ser Arg Gln Asn
 1 5 10 15
 Pro Asp Thr Leu Thr Phe Leu Lys Arg Tyr Ser Ser Val Leu Leu His
 20 25 30
 Ser Glu Asn Ser Leu Ser Tyr Arg Ile Phe Ala Lys Val Leu Ala Ile
 35 40 45
 Leu Leu Thr Ser Leu Ala Val Ala Phe Ala Val Thr Leu Phe Ser Cys
 50 55 60
 Glu Gly Ser Gln Leu Arg Leu Cys Ala Leu Tyr Ile Gly Ile Ala Leu
 65 70 75 80
 Ala Ile Cys Val Leu Leu Thr Ile Val Val Tyr Cys Ile Ala Ser Lys
 85 90 95
 Ile Ala Thr Ala Cys Lys Lys Pro Pro Ser Ile Ser Arg Ile Glu Ile
 100 105 110
 Val

<210> 434
 <211> 108
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0432

<400> 434

Lys Ile His Gln Asn Tyr Ser Met Asp Pro Ala Ser Pro Val Ala Pro
1 5 10 15
His Val Leu Gln Asp His Val Gln Leu Ser Ser Glu Glu Leu Ser Ala
20 25 30
Leu Ser Ser Gly Val Ser Arg Val Lys Lys Leu Thr Ile Ala Ile Met
35 40 45
Val Leu Ser Leu Ile Ala Ile Ser Leu Val Ala Cys Gly Leu Phe Leu
50 55 60
Thr Gly Ser Ala Pro Leu Gln Leu Ser Ile Trp Ile Ala Ala Ser Cys
65 70 75 80
Ile Thr Leu Ser Met Leu Val Cys Ala Cys Trp Arg Tyr Lys Ile Ser
85 90 95
Asn Ala Leu Glu Lys Thr Lys Val Ala His Glu Ser
100 105

<210> 435

<211> 133

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0433

<400> 435

Arg Thr Phe Arg Ile Leu Tyr Gly Thr Leu Tyr Arg Thr Gly Ser Arg
1 5 10 15
Lys Val Met Trp Tyr Ser Asp Tyr His Val Trp Ile Leu Pro Val His
20 25 30
Glu Arg Val Val Arg Leu Gly Leu Thr Glu Lys Met Gln Lys Asn Leu
35 40 45
Gly Ala Ile Leu His Val Asp Leu Pro Ser Val Gly Ser Leu Cys Lys
50 55 60
Glu Gly Glu Val Leu Val Ile Leu Glu Ser Ser Lys Ser Ala Ile Glu
65 70 75 80
Val Leu Ser Pro Val Ser Gly Glu Val Ile Asp Ile Asn Leu Asp Leu
85 90 95
Val Asp Asn Pro Gln Lys Ile Asn Glu Ala Pro Glu Gly Glu Gly Trp
100 105 110
Leu Ala Val Val Arg Leu Asp Gln Asp Trp Asp Pro Ser Asn Leu Ser
115 120 125
Leu Met Asp Glu Glu
130

<210> 436

<211> 732

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0434

<400> 436

Arg Pro Trp Val Arg Ile Tyr Gln Gln Asp Leu Phe Cys Arg Leu Cys
1 5 10 15
Arg Asp Pro Ala Trp Phe Phe Ser Leu Leu Ser Phe Thr Leu Arg Phe
20 25 30

Tyr Cys Leu Gly Arg Gly Trp Thr Leu Leu Ser Phe Phe Tyr Lys His
35 40 45
Gln Lys Lys Phe Ile Gly Ile Val Ile Ala Val Val Cys Val Ser Gly
50 55 60
Ile Gly Val Gly Trp Gly Arg Phe Ser Arg Lys Gly Ser Ala Glu Ser
65 70 75 80
Thr Ser Arg Arg Thr Val Phe Thr Thr Ala Ser Gly Lys Arg Tyr Val
85 90 95
Glu Lys Asp Phe Met Ala Met Lys Lys Phe Phe Ala His Glu Ala Tyr
100 105 110
Pro Phe Thr Gly Asn Pro Arg Ala Trp Asn Phe Ile Asn Glu Gly Leu
115 120 125
Leu Thr Asp Tyr Phe Leu Thr Thr Arg Val Gly Glu Lys Leu Phe Leu
130 135 140
Lys Val Tyr His Pro Gly Glu Lys Ile Phe Ser Lys Glu Lys Ala Tyr
145 150 155 160
Gln Pro Tyr Arg Arg Phe Asp Ala Pro Phe Ile Ser Ser Glu Glu Val
165 170 175
Trp Lys Ser Ser Ala Pro Gln Leu Leu Glu Ile Leu Lys Val Phe Gln
180 185 190
Gln Ile Glu Asn Pro Ile Ser Lys Glu Gly Phe Leu Ala Arg Ala Lys
195 200 205
Leu Phe Leu Glu Glu Arg Arg Phe Pro His Tyr Val Leu Arg Gln Met
210 215 220
Leu Glu Tyr Arg Arg Gln Met Phe Ala Leu Pro Pro Asp Glu Ala Leu
225 230 235 240
Ser Arg Gly Lys Asp Leu Arg Leu Phe Gly Tyr Gln Thr Ile Gln Asp
245 250 255
Trp Phe Gly Asp Ala Tyr Leu Ser Ala Ala Val Glu Leu Leu Ile Arg
260 265 270
Phe Ile Asp Glu Gln Lys Lys Val Leu Pro Arg Pro Ser Lys Gln Glu
275 280 285
Ala Arg Asp Asp Phe Tyr Asp Lys Ala Lys His Ala Tyr Thr Lys Ile
290 295 300
Ser Lys Asn Lys Glu Phe Ser Leu Gly Phe Glu Glu Phe Val Asn Ser
305 310 315 320
Tyr Phe Gln Phe Leu Glu Ile Ser Glu Ser Glu Phe Phe Asn Met Tyr
325 330 335
Arg Asp Ile Leu Leu Cys Lys Arg Ala Leu Leu Leu Leu Gln Gly Gly
340 345 350
Val Ser Phe Asp Phe Gln Pro Leu Thr Thr Phe Phe Val Gln Gly Lys
355 360 365
Asp Ser Ile Gln Val Glu Phe Phe Arg Leu Pro Lys Glu Tyr Ser Phe
370 375 380
Lys Thr Lys Gln Glu Leu Lys Ala Phe Glu Val Tyr Leu Lys Leu Val
385 390 395 400
Ser Leu Pro Lys Ser Asp Ser Leu Asp Val Pro Asn Glu Ile Leu Pro
405 410 415
Ile Ala Thr Ile Lys Ala Lys Glu Pro Arg Leu Val Gly Arg Arg Phe
420 425 430
Ser Ile Asp Tyr Lys Arg Val Ala Leu Gln Asp Leu Ala Ala Thr Val
435 440 445
Pro Met Val Glu Val Leu His Trp Gln Gln Asn Ser Glu His Phe Gln
450 455 460
Glu Ile Leu Gln Gln Phe Pro Asp Val Glu Thr Cys Gln Ser Tyr Lys
465 470 475 480
Asp Phe Gln His Leu Lys Pro Ala Leu Arg Asp Lys Ile Ser Leu Phe
485 490 495
Thr Arg Lys Glu Ile Leu Arg Ala Arg Pro Glu Arg Ile Leu Gln Ser
500 505 510

Leu Gln Gln Val Pro Lys Gln Ser Gln Glu Val Leu Leu Ser Ala Gly
 515 520 525
 Lys Asn Ser Ala Leu Pro Gly Ile Ser Asp Gly Gln Gln Leu Ala Lys
 530 535 540
 Val Leu Leu Glu Asn Glu Val Leu Asp Leu Tyr Ser Gln Asp Ala Glu
 545 550 555 560
 Thr Tyr Tyr Thr Ile Ile Val Asn Ser Ser Phe Glu Lys Glu Glu Val
 565 570 575
 Leu Pro Tyr Arg Glu Val Leu Lys Arg Asp Leu Ala Ser Gln Leu Leu
 580 585 590
 Thr Ser His Gly His Leu Val Asp Met Glu Arg Leu Glu Ser Ala Leu
 595 600 605
 Arg Thr Arg Tyr Pro Gly Glu Glu Gly Ala Ser Leu Trp Gln Arg Arg
 610 615 620
 Leu Trp Lys Val Val Glu Asn His Arg Leu Gly Arg His Leu Glu Gly
 625 630 635 640
 Ser Phe Ser Trp Ser Leu Asp Arg Ser Leu Lys Thr Phe Ser Arg Gly
 645 650 655
 Asp Lys Glu Leu Pro Gln Glu Phe Asp Arg Ile Phe Ser Met Lys Val
 660 665 670
 Gly Asp Tyr Ser Ser Val Phe Met Ser Pro Asn Glu Gly Pro Cys Tyr
 675 680 685
 Tyr Gln Cys Leu Ser His Leu Leu Tyr Asp Arg Pro Ala Ser Val Asp
 690 695 700
 Lys Leu Phe Leu Ala Lys Ser Gln Leu Asp Glu Glu Leu Leu Gly Ser
 705 710 715 720
 Tyr Met Glu Arg Phe Ile Glu Gln Gly Val Val Arg
 725 730

<210> 437
 <211> 478
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0435

<400> 437
 Gly Val Met Met Ser Arg Leu Arg Phe Arg Leu Ala Ala Leu Gly Ile
 1 5 10 15
 Phe Phe Ile Leu Leu Val Pro Asn Ser Val Ser Ala Lys Thr Ile Val
 20 25 30
 Ala Ser Asp Lys Glu Lys Val Gly Val Leu Val Tyr Asp Asn Ser Val
 35 40 45
 Glu Ala Phe Gln Gln Ile Leu Asp Cys Ile Asp His Ala Asn Phe Tyr
 50 55 60
 Val Glu Leu Cys Pro Cys Met Thr Gly Gly Arg Thr Leu Lys Glu Met
 65 70 75 80
 Val Asp His Leu Glu Ala Arg Met Asp Leu Val Pro Glu Leu Cys Ser
 85 90 95
 Tyr Ile Ile Ile Gln Pro Thr Phe Thr Asp Ala Glu Asp Gln Lys Leu
 100 105 110
 Leu Lys Ala Leu Lys Glu Arg His Pro Asn Arg Phe Phe Tyr Val Phe
 115 120 125
 Thr Gly Cys Pro Pro Ser Thr Ser Ile Leu Ala Pro Asn Val Ile Glu
 130 135 140
 Met His Ile Lys Leu Ser Ile Ile Asp Gly Lys Tyr Cys Ile Leu Gly
 145 150 155 160
 Gly Thr Asn Phe Glu Glu Phe Met Cys Thr Pro Gly Asp Glu Val Pro
 165 170 175

Glu Lys Val Asp Asn Pro Arg Leu Phe Val Ser Gly Val Arg Arg Pro
 180 185 190
 Leu Ala Phe Arg Asp Gln Asp Ile Met Leu Arg Ser Thr Ala Phe Gly
 195 200 205
 Leu Gln Leu Arg Glu Glu Tyr His Lys Gln Phe Ala Met Trp Asp Tyr
 210 215 220
 Tyr Ala His His Met Trp Phe Ile Asp Asn Pro Glu Gln Phe Ala Gly
 225 230 235 240
 Ala Cys Pro Pro Leu Thr Leu Glu Gln Ala Glu Glu Thr Val Phe Pro
 245 250 255
 Gly Phe Asp Lys His Glu Asp Leu Val Leu Val Asp Ser Ser Lys Ile
 260 265 270
 Arg Ile Val Leu Gly Gly Pro His Asp Lys Gln Pro Asn Pro Val Thr
 275 280 285
 Gln Glu Tyr Leu Lys Leu Ile Gln Gly Ala Arg Ser Ser Val Lys Leu
 290 295 300
 Ala His Met Tyr Phe Ile Pro Lys Asp Glu Leu Leu Asn Ala Leu Val
 305 310 315 320
 Asp Val Ser His Asn His Gly Val His Leu Ser Leu Ile Thr Asn Gly
 325 330 335
 Cys His Glu Leu Ser Pro Ala Ile Thr Gly Pro Tyr Ala Trp Gly Asn
 340 345 350
 Arg Ile Asn Tyr Phe Ala Leu Leu Tyr Gly Lys Arg Tyr Pro Leu Trp
 355 360 365
 Lys Lys Trp Phe Cys Glu Lys Leu Lys Pro Tyr Glu Arg Val Ser Ile
 370 375 380
 Tyr Glu Phe Ala Ile Trp Glu Thr Gln Leu His Lys Lys Cys Met Ile
 385 390 395 400
 Ile Asp Asp Glu Ile Phe Val Ile Gly Ser Tyr Asn Phe Gly Lys Lys
 405 410 415
 Ser Asp Ala Phe Asp Tyr Glu Ser Ile Val Val Ile Glu Ser Pro Glu
 420 425 430
 Val Ala Ala Lys Ala Asn Lys Val Phe Asn Lys Asp Ile Gly Leu Ser
 435 440 445
 Ile Pro Val Ser His Gly Asp Ile Phe Ser Trp Tyr Phe His Ser Val
 450 455 460
 His His Thr Leu Gly His Leu Gln Leu Thr Tyr Met Pro Ala
 465 470 475

<210> 438
 <211> 244
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0436

<400> 438
 Phe Tyr Val Cys Tyr Met Lys Val Arg Ile Val Asp Ser Gly Lys Ser
 1 5 10 15
 Ser Ala Ala Ser His Met Ala Lys Asp Arg Asp Leu Leu Glu Ser Leu
 20 25 30
 Gln Asp Gly Glu Leu Ile Leu His Leu Tyr Glu Trp Glu Asn Pro Cys
 35 40 45
 Ser Leu Thr Tyr Gly His Phe Met Arg Pro Glu Lys Phe Leu Leu Ser
 50 55 60
 Asn Tyr Ala Asp Leu Gly Leu Asp Ala Ala Val Arg Pro Thr Gly Gly
 65 70 75 80
 Gly Phe Val Phe His Lys Gly Asp Tyr Ala Phe Ser Val Leu Met Ser
 85 90 95

Ala Thr His Pro Ser Tyr Ser Ser Ser Val Leu Glu Asn Tyr His Thr
100 105 110
Val Asn Ser Phe Val Ala Lys Val Leu Glu Lys Val Phe Arg Ile Gln
115 120 125
Gly Met Leu Ala Pro Glu Asp Glu Asn Ser Ser Ser Arg Asp Ser Gly
130 135 140
Asn Phe Cys Met Ala Lys Thr Ser Lys Tyr Asp Val Leu Phe Gly Asp
145 150 155 160
Lys Lys Ile Gly Gly Ala Ala Gln Arg Lys Val Gln Gln Gly Phe Leu
165 170 175
His Gln Gly Ser Leu Phe Leu Ser Gly Ser Ser Ser Glu Phe Tyr Gln
180 185 190
Arg Phe Leu Lys Pro Glu Val Leu Glu Glu Ile Ile Glu Gln Ile Gln
195 200 205
Ile His Ala Phe Phe Pro Leu Gly Leu Glu Ala Ala Asp Glu Val Leu
210 215 220
Gln Glu Ala Arg Gln Gln Val Lys Glu Ala Phe Ile Lys Leu Phe Cys
225 230 235 240
Gly Glu Gly Leu

<210> 439
<211> 847
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0437

<400> 439
Val Phe Met Phe Glu Lys Phe Thr Asn Arg Ala Lys Gln Val Ile Lys
1 5 10 15
Leu Ala Lys Lys Glu Ala Gln Arg Leu Asn His Asn Tyr Leu Gly Thr
20 25 30
Glu His Ile Leu Leu Gly Leu Leu Lys Leu Gly Gln Gly Val Ala Val
35 40 45
Asn Val Leu Arg Asn Leu Gly Ile Asp Phe Asp Thr Ala Arg Gln Glu
50 55 60
Val Glu Arg Leu Ile Gly Tyr Gly Pro Glu Ile Gln Val Tyr Gly Asp
65 70 75 80
Pro Ala Leu Thr Gly Arg Val Lys Lys Ser Phe Glu Ser Ala Asn Glu
85 90 95
Glu Ala Ser Leu Leu Glu His Asn Tyr Val Gly Thr Glu His Leu Leu
100 105 110
Leu Gly Ile Leu His Gln Ser Asp Ser Val Ala Leu Gln Val Leu Glu
115 120 125
Asn Leu His Ile Asp Pro Arg Glu Val Arg Lys Glu Ile Leu Arg Glu
130 135 140
Leu Glu Thr Phe Asn Leu Gln Leu Pro Pro Ser Ser Ser Ser Ser
145 150 155 160
Ser Ser Ser Arg Ser Asn Pro Ser Ser Ser Lys Ser Pro Leu Gly His
165 170 175
Ser Leu Gly Ser Asp Lys Asn Glu Lys Leu Ser Ala Leu Lys Ala Tyr
180 185 190
Gly Tyr Asp Leu Thr Glu Met Val Arg Glu Ser Lys Leu Asp Pro Val
195 200 205
Ile Gly Arg Ser Ser Glu Val Glu Arg Leu Ile Leu Ile Leu Cys Arg
210 215 220
Arg Arg Lys Asn Asn Pro Val Leu Ile Gly Glu Ala Gly Val Gly Lys
225 230 235 240

Thr Ala Ile Val Glu Gly Leu Ala Gln Lys Ile Ile Leu Asn Glu Val
 245 250 255
 Pro Asp Ala Leu Arg Lys Lys Arg Leu Ile Thr Leu Asp Leu Ala Leu
 260 265 270
 Met Ile Ala Gly Thr Lys Tyr Arg Gly Gln Phe Glu Glu Arg Ile Lys
 275 280 285
 Ala Val Met Asp Glu Val Arg Lys His Gly Asn Ile Leu Leu Phe Ile
 290 295 300
 Asp Glu Leu His Thr Ile Val Gly Ala Gly Ala Ala Glu Gly Ala Ile
 305 310 315 320
 Asp Ala Ser Asn Ile Leu Lys Pro Ala Leu Ala Arg Gly Glu Ile Gln
 325 330 335
 Cys Ile Gly Ala Thr Thr Ile Asp Glu Tyr Arg Lys His Ile Glu Lys
 340 345 350
 Asp Ala Ala Leu Glu Arg Arg Phe Gln Lys Ile Val Val His Pro Pro
 355 360 365
 Ser Val Asp Glu Thr Ile Glu Ile Leu Arg Gly Leu Lys Lys Lys Tyr
 370 375 380
 Glu Glu His His Asn Val Phe Ile Thr Glu Glu Ala Leu Lys Ala Ala
 385 390 395 400
 Ala Thr Leu Ser Asp Gln Tyr Val His Gly Arg Phe Leu Pro Asp Lys
 405 410 415
 Ala Ile Asp Leu Leu Asp Glu Ala Gly Ala Arg Val Arg Val Asn Thr
 420 425 430
 Met Gly Gln Pro Thr Asp Leu Met Lys Leu Glu Ala Glu Ile Glu Asn
 435 440 445
 Thr Lys Leu Ala Lys Glu Gln Ala Ile Gly Thr Gln Glu Tyr Glu Lys
 450 455 460
 Ala Ala Gly Leu Arg Asp Glu Glu Lys Lys Leu Arg Glu Arg Leu Gln
 465 470 475 480
 Ser Met Lys Gln Glu Trp Glu Asn His Lys Glu Glu His Gln Val Pro
 485 490 495
 Val Asp Glu Glu Ala Val Ala Gln Val Val Ser Leu Gln Thr Gly Ile
 500 505 510
 Pro Ser Ala Arg Leu Thr Glu Ala Glu Ser Glu Lys Leu Leu Lys Leu
 515 520 525
 Glu Asp Thr Leu Arg Arg Lys Val Ile Gly Gln Asn Asp Ala Val Thr
 530 535 540
 Ser Ile Cys Arg Ala Ile Arg Arg Ser Arg Thr Gly Ile Lys Asp Pro
 545 550 555 560
 Asn Arg Pro Thr Gly Ser Phe Leu Phe Leu Gly Pro Thr Gly Val Gly
 565 570 575
 Lys Ser Leu Leu Ala Gln Gln Ile Ala Ile Glu Met Phe Gly Gly Glu
 580 585 590
 Asp Ala Leu Ile Gln Val Asp Met Ser Glu Tyr Met Glu Lys Phe Ala
 595 600 605
 Ala Thr Lys Met Met Gly Ser Pro Pro Gly Tyr Val Gly His Glu Glu
 610 615 620
 Gly Gly His Leu Thr Glu Gln Val Arg Arg Arg Pro Tyr Cys Val Val
 625 630 635 640
 Leu Phe Asp Glu Ile Glu Lys Ala His Pro Asp Ile Met Asp Leu Met
 645 650 655
 Leu Gln Ile Leu Glu Gln Gly Arg Leu Thr Asp Ser Phe Gly Arg Lys
 660 665 670
 Val Asp Phe Arg His Ala Ile Ile Ile Met Thr Ser Asn Leu Gly Ala
 675 680 685
 Asp Leu Ile Arg Lys Ser Gly Glu Ile Gly Phe Gly Leu Lys Ser His
 690 695 700
 Met Asp Tyr Lys Val Ile Gln Glu Lys Ile Glu His Ala Met Lys Lys
 705 710 715 720

Ile Glu Glu Asn Ser Ile Tyr Ile Val Arg Gly Glu Asp His Pro Gln
 275 280 285
 Leu Tyr Leu Arg Glu Leu Thr Ala Arg Glu Leu Asn Trp Phe Thr Pro
 290 295 300
 Pro Lys Ser Gly Cys His Cys Ser Ala Lys Val Arg Tyr Arg Ser Pro
 305 310 315 320
 Asp Glu Ala Cys Thr Ile Asp Tyr Ser Ser Gly Asp Glu Val Lys Val
 325 330 335
 Arg Phe Ser Gln Pro Val Lys Ala Val Thr Pro Gly Gln Thr Ile Ala
 340 345 350
 Phe Tyr Gln Gly Asp Thr Cys Leu Gly Ser Gly Val Ile Asp Val Pro
 355 360 365
 Met Ile Pro Ser Glu Gly
 370

<210> 441
 <211> 185
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0439

 <400> 441
 Ile Ile Ser Ser Asn Asn Arg Val Leu Phe Val Ser Ser Thr Leu Asn
 1 5 10 15
 Gly Val Phe Pro Ser Ser Leu Pro Glu Glu Ser Ala Asp Leu Phe Ile
 20 25 30
 Thr Asn Lys Glu Ile Val Ala Leu Gly Glu Lys Gly Asn Val Phe Leu
 35 40 45
 Thr His Ser Ile Pro Met His Ile Ala Ala Ile Thr Ile Leu Val Ile
 50 55 60
 Val Ala Leu Ala Gly Ile Ala Ile Ile Cys Leu Gly Cys Tyr Ser Gln
 65 70 75 80
 Ser Ile Leu Leu Ile Ala Val Gly Ile Val Leu Thr Ile Leu Thr Leu
 85 90 95
 Leu Cys Leu Gln Ala Leu Val Gly Phe Ile Lys Phe Ile Arg Gln Leu
 100 105 110
 Pro Gln Gln Leu His Thr Thr Val Gln Phe Ile Arg Glu Lys Ile Arg
 115 120 125
 Pro Glu Ser Ser Leu Gln Leu Val Thr Asn Ala Gln Arg Lys Thr Thr
 130 135 140
 Gln Asp Thr Leu Lys Leu Tyr Glu Glu Leu Cys Asp Leu Ser Gln Lys
 145 150 155 160
 Glu Phe Lys Leu Gln Ser Thr Leu Tyr Gln Lys Arg Phe Glu Leu Ser
 165 170 175
 His Lys Asn Glu Lys Thr Asn Gln Asn
 180 185

<210> 442
 <211> 220
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0440

 <400> 442
 Leu Ala Thr Ile Arg Gly Asn Asn Met Ala Thr Ser Val Ala Pro Ser
 1 5 10 15

Pro Val Pro Glu Ser Ser Pro Leu Ser His Ala Thr Glu Val Leu Asn
 20 25 30
 Leu Pro Asn Ala Tyr Ile Thr Gln Pro His Pro Ile Pro Ala Ala Pro
 35 40 45
 Trp Glu Thr Phe Arg Ser Lys Leu Ser Thr Lys His Thr Leu Cys Phe
 50 55 60
 Ala Leu Thr Leu Leu Leu Thr Leu Gly Gly Thr Ile Ser Ala Gly Tyr
 65 70 75 80
 Ala Gly Tyr Thr Gly Asn Trp Ile Ile Cys Gly Ile Gly Leu Gly Ile
 85 90 95
 Ile Val Leu Thr Leu Ile Leu Ala Leu Leu Ala Ile Pro Leu Lys
 100 105 110
 Asn Lys Gln Thr Gly Thr Lys Leu Ile Asp Glu Ile Ser Gln Asp Ile
 115 120 125
 Ser Ser Ile Gly Ser Gly Phe Val Gln Arg Tyr Gly Leu Met Phe Ser
 130 135 140
 Thr Ile Lys Ser Val His Leu Pro Glu Leu Thr Thr Gln Asn Gln Glu
 145 150 155 160
 Lys Thr Arg Ile Leu Asn Glu Ile Glu Ala Lys Lys Glu Ser Ile Gln
 165 170 175
 Asn Leu Glu Leu Lys Ile Thr Glu Cys Gln Asn Lys Leu Ala Gln Lys
 180 185 190
 Gln Pro Lys Arg Lys Ser Ser Gln Lys Ser Phe Met Arg Ser Ile Lys
 195 200 205
 His Leu Ser Lys Asn Pro Val Ile Leu Phe Asp Cys
 210 215 220

<210> 443
 <211> 323
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0441

<400> 443
 Arg Trp Arg Ile Leu Gln Asn Met Phe Lys Leu Leu Phe His Ile Ala
 1 5 10 15
 Ala Phe Ala Gly His Val Leu Ser Thr Pro Ile Phe Ile Val Gln Asp
 20 25 30
 Ala Cys Gly Ile Asp Glu Glu Ala Cys Lys Asn Pro Pro Pro Arg Pro
 35 40 45
 Phe Ser Ala Gln Val Gln Tyr Leu Lys Val Asn Asp Ala Lys Phe Lys
 50 55 60
 Lys Leu Pro His Gln Thr Ile Gly Tyr Arg Gln Tyr Asp Gly Thr Phe
 65 70 75 80
 Leu Cys Thr Leu Pro Ile Thr Glu His Ser Gly Leu Leu Phe Ser Thr
 85 90 95
 Gly Tyr Ile Gly Ala Asp Ile Gln Trp Lys Ser Ser Leu Pro Ile Ser
 100 105 110
 Glu Thr Asp Pro Asn Gly Leu Gly Trp Ala Thr Phe Gln Asp Thr Ser
 115 120 125
 Phe Tyr Asn Tyr Val Leu Leu Ser Leu Gly Ala Tyr Thr Leu Ser Leu
 130 135 140
 Lys Asn Trp Gln Trp Ser Ile Ile Leu Ser Gly Leu Val Asp Pro Lys
 145 150 155 160
 Asn Ile Glu Met Gly Tyr Gly Leu Tyr Gln Gly Val Leu Ser Gly Lys
 165 170 175
 Tyr Gln Ala Thr Glu Lys Leu Ser Ala Ile Phe Gly Val Ile Asn Glu
 180 185 190

Thr Gly Leu His Gln Glu Lys Ala Trp Pro Leu Val Gly Val Ser Tyr
 195 200 205
 Lys Ala Thr Asp Gln Leu Thr Leu Asn Cys Ile Tyr Pro Val Asn Phe
 210 215 220
 Ser Ile Asp Tyr Arg Ser Thr Ser Val Cys Asn Leu Gly Leu Ala Tyr
 225 230 235 240
 Arg Leu Thr Arg Phe Arg Lys Lys Leu His Lys Asn His Leu Ile Ser
 245 250 255
 Ser Arg Gly Ile Phe Glu Tyr Gln Gly Arg Glu Ile Glu Ala Asn Val
 260 265 270
 Lys Leu Thr Pro Trp Pro Gly Ser Phe Ile Lys Gly Phe Tyr Gly Trp
 275 280 285
 Ser Ile Gly Asn Asp Ile Ser Ile Ala Asp Asp His Asn Asn Asn Lys
 290 295 300
 Thr Ser His Thr Phe Lys Thr Ser Ala Phe Phe Gly Gly Ser Ala Val
 305 310 315 320
 Met Asn Phe

<210> 444
 <211> 179
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0442

<400> 444
 Asn Ile Leu Phe Gln Thr Asp Met Gly Phe Lys Asn Ile Cys Lys Gln
 1 5 10 15
 Gly Ser Gln Leu Tyr Leu Asn Gly Ile Phe Pro Glu Arg Ile Leu Ala
 20 25 30
 Arg Lys Leu Lys Asn Cys Ala Lys Ser Tyr Pro Arg Thr Ala Leu Thr
 35 40 45
 Ile Glu Val Leu Val Ser Ser Val Leu Gly Ala Leu Lys Val Ile Leu
 50 55 60
 Ile Pro Cys Ala Ser Thr Tyr Ala Ala Leu Thr Leu Pro Leu Arg Ala
 65 70 75 80
 Leu Phe Asn Ala Ile Lys Thr Lys Ser Cys Gln His Leu Ala Ser Tyr
 85 90 95
 Ala Met Ala Trp Leu Leu His Ile Leu Thr Ile Ala Val Ile Ile Gly
 100 105 110
 Leu Val Phe Ser Leu Val Phe Ile Pro Pro Pro Val Val Phe Ile Ser
 115 120 125
 Leu Gly Leu Leu Met Ser Val Thr Thr Ser Val Thr Leu Phe Gln Val
 130 135 140
 His Lys Asn Leu Phe Pro Pro Tyr Glu Pro Pro Pro Ser Arg Pro His
 145 150 155 160
 Thr Pro Pro Pro Phe Ala Asp Glu Tyr Val Pro Leu Ile Ser Glu Ser
 165 170 175
 Tyr Phe Asp

<210> 445
 <211> 420
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0443

<400> 445

Val	Asp	Ser	Met	Ser	Gln	Pro	Pro	Ile	Asn	Pro	Leu	Gly	Gln	Pro	Gln
1				5					10					15	
Val	Pro	Ala	Ala	Ala	Ser	Pro	Ser	Gly	Gln	Pro	Ser	Val	Val	Lys	Arg
			20					25					30		
Leu	Lys	Thr	Ser	Ser	Thr	Gly	Leu	Phe	Lys	Arg	Phe	Ile	Thr	Ile	Pro
		35				40						45			
Asp	Lys	Tyr	Pro	Lys	Met	Arg	Tyr	Val	Tyr	Asp	Thr	Gly	Ile	Ile	Ala
50					55					60					
Leu	Ala	Ala	Ile	Ala	Ile	Leu	Ser	Ile	Leu	Leu	Thr	Ala	Ser	Gly	Asn
65					70				75						80
Ser	Leu	Met	Leu	Tyr	Ala	Leu	Ala	Pro	Ala	Leu	Ala	Leu	Gly	Ala	Leu
			85					90						95	
Gly	Val	Thr	Leu	Leu	Ile	Ser	Asp	Ile	Leu	Asp	Ser	Pro	Lys	Ala	Lys
			100					105					110		
Lys	Ile	Gly	Glu	Ala	Ile	Thr	Ala	Ile	Val	Val	Pro	Ile	Ile	Val	Leu
		115					120					125			
Ala	Ile	Ala	Ala	Gly	Leu	Ile	Ala	Gly	Ala	Phe	Val	Ala	Ser	Ser	Gly
130					135						140				
Thr	Met	Leu	Val	Phe	Ala	Asn	Pro	Met	Phe	Val	Met	Gly	Leu	Ile	Thr
145					150					155					160
Val	Gly	Leu	Tyr	Phe	Met	Ser	Leu	Asn	Lys	Leu	Thr	Leu	Asp	Tyr	Phe
				165				170						175	
Arg	Arg	Glu	His	Leu	Leu	Arg	Met	Glu	Lys	Lys	Thr	Gln	Glu	Thr	Ala
			180					185					190		
Glu	Pro	Ile	Leu	Val	Thr	Pro	Ser	Ala	Asp	Asp	Ala	Lys	Lys	Ile	Ala
		195				200					205				
Val	Glu	Lys	Lys	Lys	Asp	Leu	Ser	Ala	Ser	Ala	Arg	Met	Glu	Glu	His
210					215						220				
Glu	Ala	Ser	Gln	Arg	Gln	Asp	Ala	Arg	His	Arg	Arg	Ile	Gly	Arg	Glu
225				230						235					240
Ala	Gln	Gly	Ser	Phe	Phe	Tyr	Ser	Ser	Arg	Asn	Pro	Glu	His	Arg	Arg
				245				250						255	
Ser	Phe	Gly	Ser	Leu	Ser	Arg	Phe	Lys	Thr	Lys	Pro	Ser	Asp	Ala	Ala
			260					265					270		
Ser	Thr	Arg	Pro	Ala	Ser	Ile	Ser	Pro	Pro	Phe	Lys	Asp	Asp	Phe	Gln
		275					280					285			
Pro	Tyr	His	Phe	Lys	Asp	Leu	Arg	Ser	Ser	Ser	Phe	Gly	Ser	Gly	Ala
290					295						300				
Ser	Ser	Ala	Phe	Thr	Pro	Ile	Met	Pro	Ala	Ser	Ser	Arg	Ser	Pro	Asn
305					310					315					320
Phe	Ser	Thr	Gly	Thr	Val	Leu	His	Pro	Glu	Pro	Val	Tyr	Pro	Lys	Gly
				325				330						335	
Gly	Lys	Glu	Pro	Ser	Ile	Pro	Arg	Val	Ser	Ser	Ser	Ser	Arg	Arg	Ser
			340					345					350		
Pro	Arg	Asp	Arg	Gln	Asp	Lys	Gln	Gln	Gln	Gln	Gln	Asn	Gln	Asp	Glu
		355				360						365			
Glu	Gln	Lys	Gln	Gln	Ser	Lys	Lys	Ser	Gly	Lys	Ser	Asn	Gln	Ser	
370					375						380				
Leu	Lys	Thr	Pro	Pro	Pro	Asp	Gly	Lys	Ser	Thr	Ala	Asn	Leu	Ser	Pro
385					390					395					400
Ser	Asn	Pro	Phe	Ser	Asp	Gly	Tyr	Asp	Glu	Arg	Glu	Lys	Arg	Lys	His
				405					410					415	
Arg	Lys	Asn	Lys												
			420												

<210> 446

<211> 1414

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0444

<400> 446

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1				5				10						15	
Thr	Ser	Ser	Ala	Leu	Val	Phe	Ser	Leu	His	Pro	Leu	Met	Ala	Ala	Asn
			20					25					30		
Thr	Asp	Leu	Ser	Ser	Ser	Asp	Asn	Tyr	Glu	Asn	Gly	Ser	Ser	Gly	Ser
		35					40					45			
Ala	Ala	Phe	Thr	Ala	Lys	Glu	Thr	Ser	Asp	Ala	Ser	Gly	Thr	Thr	Tyr
	50					55					60				
Thr	Leu	Thr	Ser	Asp	Val	Ser	Ile	Thr	Asn	Val	Ser	Ala	Ile	Thr	Pro
65					70				75						80
Ala	Asp	Lys	Ser	Cys	Phe	Thr	Asn	Thr	Gly	Gly	Ala	Leu	Ser	Phe	Val
				85					90					95	
Gly	Ala	Asp	His	Ser	Leu	Val	Leu	Gln	Thr	Ile	Ala	Leu	Thr	His	Asp
			100					105					110		
Gly	Ala	Ala	Ile	Asn	Asn	Thr	Asn	Thr	Ala	Leu	Ser	Phe	Ser	Gly	Phe
		115					120					125			
Ser	Ser	Leu	Leu	Ile	Asp	Ser	Ala	Pro	Ala	Thr	Gly	Thr	Ser	Gly	Gly
		130				135					140				
Lys	Gly	Ala	Ile	Cys	Val	Thr	Asn	Thr	Glu	Gly	Gly	Thr	Ala	Thr	Phe
145				150					155						160
Thr	Asp	Asn	Ala	Ser	Val	Thr	Leu	Gln	Lys	Asn	Thr	Ser	Glu	Lys	Asp
				165					170					175	
Gly	Ala	Ala	Val	Ser	Ala	Tyr	Ser	Ile	Asp	Leu	Ala	Lys	Thr	Thr	
			180					185					190		
Ala	Ala	Leu	Leu	Asp	Gln	Asn	Thr	Ser	Thr	Lys	Asn	Gly	Gly	Ala	Leu
		195				200						205			
Cys	Ser	Thr	Ala	Asn	Thr	Thr	Val	Gln	Gly	Asn	Ser	Gly	Thr	Val	Thr
		210				215					220				
Phe	Ser	Ser	Asn	Thr	Ala	Thr	Asp	Lys	Gly	Gly	Gly	Ile	Tyr	Ser	Lys
225				230					235						240
Glu	Lys	Asp	Ser	Thr	Leu	Asp	Ala	Asn	Thr	Gly	Val	Val	Thr	Phe	Lys
				245					250					255	
Ser	Asn	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Trp	Ser	Ser	Asp	Asp	Asn	Leu
			260					265					270		
Ala	Leu	Thr	Gly	Asn	Thr	Gln	Val	Leu	Phe	Gln	Glu	Asn	Lys	Thr	Thr
		275				280						285			
Gly	Ser	Ala	Ala	Gln	Ala	Asn	Asn	Pro	Glu	Gly	Cys	Gly	Gly	Ala	Ile
	290					295					300				
Cys	Cys	Tyr	Leu	Ala	Thr	Ala	Thr	Asp	Lys	Thr	Gly	Leu	Ala	Ile	Ser
305				310					315						320
Gln	Asn	Gln	Glu	Met	Ser	Phe	Thr	Ser	Asn	Thr	Thr	Thr	Ala	Asn	Gly
				325					330					335	
Gly	Ala	Ile	Tyr	Ala	Thr	Lys	Cys	Thr	Leu	Asp	Gly	Asn	Thr	Thr	Leu
		340						345					350		
Thr	Phe	Asp	Gln	Asn	Thr	Ala	Thr	Ala	Gly	Cys	Gly	Gly	Ala	Ile	Tyr
		355				360						365			
Thr	Glu	Thr	Glu	Asp	Phe	Ser	Leu	Lys	Gly	Ser	Thr	Gly	Thr	Val	Thr
		370				375					380				
Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Leu	Tyr	Ser	Lys	Gly
385				390					395						400
Asn	Ser	Ser	Leu	Thr	Gly	Asn	Thr	Asn	Leu	Leu	Phe	Ser	Gly	Asn	Lys
				405					410					415	
Ala	Thr	Gly	Pro	Ser	Asn	Ser	Ser	Ala	Asn	Gln	Glu	Gly	Cys	Gly	Gly
			420						425				430		
Ala	Ile	Leu	Ala	Phe	Ile	Asp	Ser	Gly	Ser	Val	Ser	Asp	Lys	Thr	Gly
		435					440					445			

Leu	Ser	Ile	Ala	Asn	Asn	Gln	Glu	Val	Ser	Leu	Thr	Ser	Asn	Ala	Ala
450						455					460				
Thr	Val	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Thr	Lys	Cys	Thr	Leu	Thr	Gly
465					470					475					480
Asn	Gly	Ser	Leu	Thr	Phe	Asp	Gly	Asn	Thr	Ala	Gly	Thr	Ser	Gly	Gly
				485					490					495	
Ala	Ile	Tyr	Thr	Glu	Thr	Glu	Asp	Phe	Thr	Leu	Thr	Gly	Ser	Thr	Gly
			500					505					510		
Thr	Val	Thr	Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Gly	Gly	Ala	Leu	Tyr
		515					520					525			
Ser	Lys	Gly	Asn	Asn	Ser	Leu	Ser	Gly	Asn	Thr	Asn	Leu	Leu	Phe	Ser
	530					535					540				
Gly	Asn	Lys	Ala	Thr	Gly	Pro	Ser	Asn	Ser	Ser	Ala	Asn	Gln	Glu	Gly
545					550					555					560
Cys	Gly	Gly	Ala	Ile	Leu	Ser	Phe	Leu	Glu	Ser	Ala	Ser	Val	Ser	Thr
				565					570					575	
Lys	Lys	Gly	Leu	Trp	Ile	Glu	Asp	Asn	Glu	Asn	Val	Ser	Leu	Ser	Gly
			580					585					590		
Asn	Thr	Ala	Thr	Val	Ser	Gly	Gly	Ala	Ile	Tyr	Ala	Thr	Lys	Cys	Ala
		595					600					605			
Leu	His	Gly	Asn	Thr	Thr	Leu	Thr	Phe	Asp	Gly	Asn	Thr	Ala	Glu	Thr
	610					615					620				
Ala	Gly	Gly	Ala	Ile	Tyr	Thr	Glu	Thr	Glu	Asp	Phe	Thr	Leu	Thr	Gly
625					630					635					640
Ser	Thr	Gly	Thr	Val	Thr	Phe	Ser	Thr	Asn	Thr	Ala	Lys	Thr	Ala	Gly
				645					650					655	
Ala	Leu	His	Thr	Lys	Gly	Asn	Thr	Ser	Phe	Thr	Lys	Asn	Lys	Ala	Leu
		660						665					670		
Val	Phe	Ser	Gly	Asn	Ser	Ala	Thr	Ala	Thr	Ala	Thr	Thr	Thr	Thr	Asp
		675					680						685		
Gln	Glu	Gly	Cys	Gly	Gly	Ala	Ile	Leu	Cys	Asn	Ile	Ser	Glu	Ser	Asp
	690					695					700				
Ile	Ala	Thr	Lys	Ser	Leu	Thr	Leu	Thr	Glu	Asn	Glu	Ser	Leu	Ser	Phe
705					710					715					720
Ile	Asn	Asn	Thr	Ala	Lys	Arg	Ser	Gly	Gly	Gly	Ile	Tyr	Ala	Pro	Lys
			725						730					735	
Cys	Val	Ile	Ser	Gly	Ser	Glu	Ser	Ile	Asn	Phe	Asp	Gly	Asn	Thr	Ala
			740					745					750		
Glu	Thr	Ser	Gly	Gly	Ala	Ile	Tyr	Ser	Lys	Asn	Leu	Ser	Ile	Thr	Ala
		755					760					765			
Asn	Gly	Pro	Val	Ser	Phe	Thr	Asn	Asn	Ser	Gly	Gly	Lys	Gly	Gly	Ala
	770					775					780				
Ile	Tyr	Ile	Ala	Asp	Ser	Gly	Glu	Leu	Ser	Leu	Glu	Ala	Ile	Asp	Gly
785					790					795					800
Asp	Ile	Thr	Phe	Ser	Gly	Asn	Arg	Ala	Thr	Glu	Gly	Thr	Ser	Thr	Pro
				805					810					815	
Asn	Ser	Ile	His	Leu	Gly	Ala	Gly	Ala	Lys	Ile	Thr	Lys	Leu	Ala	Ala
			820					825					830		
Ala	Pro	Gly	His	Thr	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr	Met	Glu	Ala
		835					840					845			
Pro	Ala	Ser	Gly	Gly	Thr	Ile	Glu	Glu	Leu	Val	Ile	Asn	Pro	Val	Val
	850					855					860				
Lys	Ala	Ile	Val	Pro	Pro	Pro	Gln	Pro	Lys	Asn	Gly	Pro	Ile	Ala	Ser
865					870					875					880
Val	Pro	Val	Val	Pro	Val	Ala	Pro	Ala	Asn	Pro	Asn	Thr	Gly	Thr	Ile
				885					890					895	
Val	Phe	Ser	Ser	Gly	Lys	Leu	Pro	Ser	Gln	Asp	Ala	Ser	Ile	Pro	Ala
			900					905					910		
Asn	Thr	Thr	Thr	Ile	Leu	Asn	Gln	Lys	Ile	Asn	Leu	Ala	Gly	Gly	Asn
			915				920						925		

Val	Val	Leu	Lys	Glu	Gly	Ala	Thr	Leu	Gln	Val	Tyr	Ser	Phe	Thr	Gln
930						935					940				
Gln	Pro	Asp	Ser	Thr	Val	Phe	Met	Asp	Ala	Gly	Thr	Thr	Leu	Glu	Thr
945					950					955					960
Thr	Thr	Thr	Asn	Asn	Thr	Asp	Gly	Ser	Ile	Asp	Leu	Lys	Asn	Leu	Ser
			965						970					975	
Val	Asn	Leu	Asp	Ala	Leu	Asp	Gly	Lys	Arg	Met	Ile	Thr	Ile	Ala	Val
			980					985					990		
Asn	Ser	Thr	Ser	Gly	Gly	Leu	Lys	Ile	Ser	Gly	Asp	Leu	Lys	Phe	His
		995					1000					1005			
Asn	Asn	Glu	Gly	Ser	Phe	Tyr	Asp	Asn	Pro	Gly	Leu	Lys	Ala	Asn	Leu
	1010						1015				1020				
Asn	Leu	Pro	Phe	Leu	Asp	Leu	Ser	Ser	Thr	Ser	Gly	Thr	Val	Asn	Leu
1025					1030					1035					1040
Asp	Asp	Phe	Asn	Pro	Ile	Pro	Ser	Ser	Met	Ala	Ala	Pro	Asp	Tyr	Gly
				1045					1050					1055	
Tyr	Gln	Gly	Ser	Trp	Thr	Leu	Val	Pro	Lys	Val	Gly	Ala	Gly	Gly	Lys
			1060						1065					1070	
Val	Thr	Leu	Val	Ala	Glu	Trp	Gln	Ala	Leu	Gly	Tyr	Thr	Pro	Lys	Pro
	1075						1080						1085		
Glu	Leu	Arg	Ala	Thr	Leu	Val	Pro	Asn	Ser	Leu	Trp	Asn	Ala	Tyr	Val
	1090					1095						1100			
Asn	Ile	His	Ser	Ile	Gln	Gln	Glu	Ile	Ala	Thr	Ala	Met	Ser	Asp	Ala
1105					1110					1115					1120
Pro	Ser	His	Pro	Gly	Ile	Trp	Ile	Gly	Gly	Ile	Gly	Asn	Ala	Phe	His
				1125					1130					1135	
Gln	Asp	Lys	Gln	Lys	Glu	Asn	Ala	Gly	Phe	Arg	Leu	Ile	Ser	Arg	Gly
			1140					1145					1150		
Tyr	Ile	Val	Gly	Gly	Ser	Met	Thr	Thr	Pro	Gln	Glu	Tyr	Thr	Phe	Ala
	1155						1160						1165		
Val	Ala	Phe	Ser	Gln	Leu	Phe	Gly	Lys	Ser	Lys	Asp	Tyr	Val	Val	Ser
	1170					1175					1180				
Asp	Ile	Lys	Ser	Gln	Val	Tyr	Ala	Gly	Ser	Leu	Cys	Ala	Gln	Ser	Ser
1185					1190					1195					1200
Tyr	Val	Ile	Pro	Leu	His	Ser	Ser	Leu	Arg	Arg	His	Val	Leu	Ser	Lys
				1205					1210					1215	
Val	Leu	Pro	Glu	Leu	Pro	Gly	Glu	Thr	Pro	Leu	Val	Leu	His	Gly	Gln
		1220						1225					1230		
Val	Ser	Tyr	Gly	Arg	Asn	His	His	Asn	Met	Thr	Thr	Lys	Leu	Ala	Asn
	1235						1240					1245			
Asn	Thr	Gln	Gly	Lys	Ser	Asp	Trp	Asp	Ser	His	Ser	Phe	Ala	Val	Glu
	1250					1255					1260				
Val	Gly	Gly	Ser	Leu	Pro	Val	Asp	Leu	Asn	Tyr	Arg	Tyr	Leu	Thr	Ser
1265					1270					1275					1280
Tyr	Ser	Pro	Tyr	Val	Lys	Leu	Gln	Val	Val	Ser	Val	Asn	Gln	Lys	Gly
				1285					1290					1295	
Phe	Gln	Glu	Val	Ala	Ala	Asp	Pro	Arg	Ile	Phe	Asp	Ala	Ser	His	Leu
			1300					1305					1310		
Val	Asn	Val	Ser	Ile	Pro	Met	Gly	Leu	Thr	Phe	Lys	His	Glu	Ser	Ala
	1315						1320					1325			
Lys	Pro	Pro	Ser	Ala	Leu	Leu	Leu	Thr	Leu	Gly	Tyr	Ala	Val	Asp	Ala
	1330					1335					1340				
Tyr	Arg	Asp	His	Pro	His	Cys	Leu	Thr	Ser	Leu	Thr	Asn	Gly	Thr	Ser
1345					1350					1355					1360
Trp	Ser	Thr	Phe	Ala	Thr	Asn	Leu	Ser	Arg	Gln	Ala	Phe	Phe	Ala	Glu
				1365					1370					1375	
Ala	Ser	Gly	His	Leu	Lys	Leu	Leu	His	Gly	Leu	Asp	Cys	Phe	Ala	Ser
			1380					1385					1390		
Gly	Ser	Cys	Glu	Leu	Arg	Ser	Ser	Ser	Arg	Ser	Tyr	Asn	Ala	Asn	Cys
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Gly Thr Arg Tyr Ser Phe
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<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0445

<400> 447
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Val Ala Ala Glu Val Thr Leu Asp Ser Ser Asn Asn Ser Tyr Asp Gly
35 40 45
Ser Asn Gly Thr Thr Phe Thr Val Phe Ser Thr Thr Asp Ala Ala Ala
50 55 60
Gly Thr Thr Tyr Ser Leu Leu Ser Asp Val Ser Phe Gln Asn Ala Gly
65 70 75 80
Ala Leu Gly Ile Pro Leu Ala Ser Gly Cys Phe Leu Glu Ala Gly Gly
85 90 95
Asp Leu Thr Phe Gln Gly Asn Gln His Ala Leu Lys Phe Ala Phe Ile
100 105 110
Asn Ala Gly Ser Ser Ala Gly Thr Val Ala Ser Thr Ser Ala Ala Asp
115 120 125
Lys Asn Leu Leu Phe Asn Asp Phe Ser Arg Leu Ser Ile Ile Ser Cys
130 135 140
Pro Ser Leu Leu Leu Ser Pro Thr Gly Gln Cys Ala Leu Lys Ser Val
145 150 155 160
Gly Asn Leu Ser Leu Thr Gly Asn Ser Gln Ile Ile Phe Thr Gln Asn
165 170 175
Phe Ser Ser Asp Asn Gly Gly Val Ile Asn Thr Lys Asn Phe Leu Leu
180 185 190
Ser Gly Thr Ser Gln Phe Ala Ser Phe Ser Arg Asn Gln Ala Phe Thr
195 200 205
Gly Lys Gln Gly Gly Val Val Tyr Ala Thr Gly Thr Ile Thr Ile Glu
210 215 220
Asn Ser Pro Gly Ile Val Ser Phe Ser Gln Asn Leu Ala Lys Gly Ser
225 230 235 240
Gly Gly Ala Leu Tyr Ser Thr Asp Asn Cys Ser Ile Thr Asp Asn Phe
245 250 255
Gln Val Ile Phe Asp Gly Asn Ser Ala Trp Glu Ala Ala Gln Ala Gln
260 265 270
Gly Gly Ala Ile Cys Cys Thr Thr Thr Asp Lys Thr Val Thr Leu Thr
275 280 285
Gly Asn Lys Asn Leu Ser Phe Thr Asn Asn Thr Ala Leu Thr Tyr Gly
290 295 300
Gly Ala Ile Ser Gly Leu Lys Val Ser Ile Ser Ala Gly Gly Pro Thr
305 310 315 320
Leu Phe Gln Ser Asn Ile Ser Gly Ser Ser Ala Gly Gln Gly Gly Gly
325 330 335
Gly Ala Ile Asn Ile Ala Ser Ala Gly Glu Leu Ala Leu Ser Ala Thr
340 345 350
Ser Gly Asp Ile Thr Phe Asn Asn Gln Val Thr Asn Gly Ser Thr
355 360 365
Ser Thr Arg Asn Ala Ile Asn Ile Ile Asp Thr Ala Lys Val Thr Ser
370 375 380

Ile	Arg	Ala	Ala	Thr	Gly	Gln	Ser	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr	385	390	395	400
Asn	Pro	Gly	Thr	Ala	Ala	Ser	Thr	Asp	Thr	Leu	Asn	Leu	Asn	Leu	Ala	405	410	415	
Asp	Ala	Asn	Ser	Glu	Ile	Glu	Tyr	Gly	Gly	Ala	Ile	Val	Phe	Ser	Gly	420	425	430	
Glu	Lys	Leu	Ser	Pro	Thr	Glu	Lys	Ala	Ile	Ala	Ala	Asn	Val	Thr	Ser	435	440	445	
Thr	Ile	Arg	Gln	Pro	Ala	Val	Leu	Ala	Arg	Gly	Asp	Leu	Val	Leu	Arg	450	455	460	
Asp	Gly	Val	Thr	Val	Thr	Phe	Lys	Asp	Leu	Thr	Gln	Ser	Pro	Gly	Ser	465	470	475	480
Arg	Ile	Leu	Met	Asp	Gly	Gly	Thr	Thr	Leu	Ser	Ala	Lys	Glu	Ala	Asn	485	490	495	
Leu	Ser	Leu	Asn	Gly	Leu	Ala	Val	Asn	Leu	Ser	Ser	Leu	Asp	Gly	Thr	500	505	510	
Asn	Lys	Ala	Ala	Leu	Lys	Thr	Glu	Ala	Ala	Asp	Lys	Asn	Ile	Ser	Leu	515	520	525	
Ser	Gly	Thr	Ile	Ala	Leu	Ile	Asp	Thr	Glu	Gly	Ser	Phe	Tyr	Glu	Asn	530	535	540	
His	Asn	Leu	Lys	Ser	Ala	Ser	Thr	Tyr	Pro	Leu	Leu	Glu	Leu	Thr	Thr	545	550	555	560
Ala	Gly	Ala	Asn	Gly	Thr	Ile	Thr	Leu	Gly	Ala	Leu	Ser	Thr	Leu	Thr	565	570	575	
Leu	Gln	Glu	Pro	Glu	Thr	His	Tyr	Gly	Tyr	Gln	Gly	Asn	Trp	Gln	Leu	580	585	590	
Ser	Trp	Ala	Asn	Ala	Thr	Ser	Ser	Lys	Ile	Gly	Ser	Ile	Asn	Trp	Thr	595	600	605	
Arg	Thr	Gly	Tyr	Ile	Pro	Ser	Pro	Glu	Arg	Lys	Ser	Asn	Leu	Pro	Leu	610	615	620	
Asn	Ser	Leu	Trp	Gly	Asn	Phe	Ile	Asp	Ile	Arg	Ser	Ile	Asn	Gln	Leu	625	630	635	640
Ile	Glu	Thr	Lys	Ser	Ser	Gly	Glu	Pro	Phe	Glu	Arg	Glu	Leu	Trp	Leu	645	650	655	
Ser	Gly	Ile	Ala	Asn	Phe	Phe	Tyr	Arg	Asp	Ser	Met	Pro	Thr	Arg	His	660	665	670	
Gly	Phe	Arg	His	Ile	Ser	Gly	Gly	Tyr	Ala	Leu	Gly	Ile	Thr	Ala	Thr	675	680	685	
Thr	Pro	Ala	Glu	Asp	Gln	Leu	Thr	Phe	Ala	Phe	Cys	Gln	Leu	Phe	Ala	690	695	700	
Arg	Asp	Arg	Asn	His	Ile	Thr	Gly	Lys	Asn	His	Gly	Asp	Thr	Tyr	Gly	705	710	715	720
Ala	Ser	Leu	Tyr	Phe	His	His	Thr	Glu	Gly	Leu	Phe	Asp	Ile	Ala	Asn	725	730	735	
Phe	Leu	Trp	Gly	Lys	Ala	Thr	Arg	Ala	Pro	Trp	Val	Leu	Ser	Glu	Ile	740	745	750	
Ser	Gln	Ile	Ile	Pro	Leu	Ser	Phe	Asp	Ala	Lys	Phe	Ser	Tyr	Leu	His	755	760	765	
Thr	Asp	Asn	His	Met	Lys	Thr	Tyr	Tyr	Thr	Asp	Asn	Ser	Ile	Ile	Lys	770	775	780	
Gly	Ser	Trp	Arg	Asn	Asp	Ala	Phe	Cys	Ala	Asp	Leu	Gly	Ala	Ser	Leu	785	790	795	800
Pro	Phe	Val	Ile	Ser	Val	Pro	Tyr	Leu	Leu	Lys	Glu	Val	Glu	Pro	Phe	805	810	815	
Val	Lys	Val	Gln	Tyr	Ile	Tyr	Ala	His	Gln	Gln	Asp	Phe	Tyr	Glu	Arg	820	825	830	
His	Ala	Glu	Gly	Arg	Ala	Phe	Asn	Lys	Ser	Glu	Leu	Ile	Asn	Val	Glu	835	840	845	
Ile	Pro	Ile	Gly	Val	Thr	Phe	Glu	Arg	Asp	Ser	Lys	Ser	Glu	Lys	Gly	850	855	860	

Thr Tyr Asp Leu Thr Leu Met Tyr Ile Leu Asp Ala Tyr Arg Arg Asn
 865 870 875 880
 Pro Lys Cys Gln Thr Ser Leu Ile Ala Ser Asp Ala Asn Trp Met Ala
 885 890 895
 Tyr Gly Thr Asn Leu Ala Arg Gln Gly Phe Ser Val Arg Ala Ala Asn
 900 905 910
 His Phe Gln Val Asn Pro His Met Glu Ile Phe Gly Gln Phe Ala Phe
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 Glu Val Arg Ser Ser Ser Arg Asn Tyr Asn Thr Asn Leu Gly Ser Lys
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 Phe Cys Phe
 945

<210> 448
 <211> 938
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0446

<400> 448
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 Tyr Gly Ala Asp Ala Ser Leu Ser Pro Thr Asp Ser Phe Asp Gly Ala
 35 40 45
 Gly Gly Ser Thr Phe Thr Pro Lys Ser Thr Ala Asp Ala Asn Gly Thr
 50 55 60
 Asn Tyr Val Leu Ser Gly Asn Val Tyr Ile Asn Asp Ala Gly Lys Gly
 65 70 75 80
 Thr Ala Leu Thr Gly Cys Cys Phe Thr Glu Thr Thr Gly Asp Leu Thr
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 Phe Thr Gly Lys Gly Tyr Ser Phe Ser Phe Asn Thr Val Asp Ala Gly
 100 105 110
 Ser Asn Ala Gly Ala Ala Ala Ser Thr Thr Ala Asp Lys Ala Leu Thr
 115 120 125
 Phe Thr Gly Phe Ser Asn Leu Ser Phe Ile Ala Ala Pro Gly Thr Thr
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 Val Ala Ser Gly Lys Ser Thr Leu Ser Ser Ala Gly Ala Leu Asn Leu
 145 150 155 160
 Thr Asp Asn Gly Thr Ile Leu Phe Ser Gln Asn Val Ser Asn Glu Ala
 165 170 175
 Asn Asn Asn Gly Gly Ala Ile Thr Thr Lys Thr Leu Ser Ile Ser Gly
 180 185 190
 Asn Thr Ser Ser Ile Thr Phe Thr Ser Asn Ser Ala Lys Lys Leu Gly
 195 200 205
 Gly Ala Ile Tyr Ser Ser Ala Ala Ser Ile Ser Gly Asn Thr Gly
 210 215 220
 Gln Leu Val Phe Met Asn Asn Lys Gly Glu Thr Gly Gly Gly Ala Leu
 225 230 235 240
 Gly Phe Glu Ala Ser Ser Ser Ile Thr Gln Asn Ser Ser Leu Phe Phe
 245 250 255
 Ser Gly Asn Thr Ala Thr Asp Ala Ala Gly Lys Gly Gly Ala Ile Tyr
 260 265 270
 Cys Glu Lys Thr Gly Glu Thr Pro Thr Leu Thr Ile Ser Gly Asn Lys
 275 280 285
 Ser Leu Thr Phe Ala Glu Asn Ser Ser Val Thr Gln Gly Gly Ala Ile
 290 295 300

Cys	Ala	His	Gly	Leu	Asp	Leu	Ser	Ala	Ala	Gly	Pro	Thr	Leu	Phe	Ser	305	310	315	320
Asn	Asn	Arg	Cys	Gly	Asn	Thr	Ala	Ala	Gly	Lys	Gly	Gly	Ala	Ile	Ala	325	330		335
Ile	Ala	Asp	Ser	Gly	Ser	Leu	Ser	Leu	Ser	Ala	Asn	Gln	Gly	Asp	Ile	340	345		350
Thr	Phe	Leu	Gly	Asn	Thr	Leu	Thr	Ser	Thr	Ser	Ala	Pro	Thr	Ser	Thr	355	360		365
Arg	Asn	Ala	Ile	Tyr	Leu	Gly	Ser	Ser	Ala	Lys	Ile	Thr	Asn	Leu	Arg	370	375		380
Ala	Ala	Gln	Gly	Gln	Ser	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Ala	Ser	Asn	385	390		395
Thr	Thr	Gly	Ala	Ser	Asp	Val	Leu	Thr	Ile	Asn	Gln	Pro	Asp	Ser	Asn	405	410		415
Ser	Pro	Leu	Asp	Tyr	Ser	Gly	Thr	Ile	Val	Phe	Ser	Gly	Glu	Lys	Leu	420	425		430
Ser	Ala	Asp	Glu	Ala	Lys	Ala	Ala	Asp	Asn	Phe	Thr	Ser	Ile	Leu	Lys	435	440		445
Gln	Pro	Leu	Ala	Leu	Ala	Ser	Gly	Thr	Leu	Ala	Leu	Lys	Gly	Asn	Val	450	455		460
Glu	Leu	Asp	Val	Asn	Gly	Phe	Thr	Gln	Thr	Glu	Gly	Ser	Thr	Leu	Leu	465	470		475
Met	Gln	Pro	Gly	Thr	Lys	Leu	Lys	Ala	Asp	Thr	Glu	Ala	Ile	Ser	Leu	485	490		495
Thr	Lys	Leu	Val	Val	Asp	Leu	Ser	Ala	Leu	Glu	Gly	Asn	Lys	Ser	Val	500	505		510
Ser	Ile	Glu	Thr	Ala	Gly	Ala	Asn	Lys	Thr	Ile	Thr	Leu	Thr	Ser	Pro	515	520		525
Leu	Val	Phe	Gln	Asp	Ser	Ser	Gly	Asn	Phe	Tyr	Glu	Ser	His	Thr	Ile	530	535		540
Asn	Gln	Ala	Phe	Thr	Gln	Pro	Leu	Val	Val	Phe	Thr	Ala	Ala	Thr	Ala	545	550		555
Ala	Ser	Asp	Ile	Tyr	Ile	Asp	Ala	Leu	Leu	Thr	Ser	Pro	Val	Gln	Thr	565	570		575
Pro	Glu	Pro	His	Tyr	Gly	Tyr	Gln	Gly	His	Trp	Glu	Ala	Thr	Trp	Ala	580	585		590
Asp	Thr	Ser	Thr	Ala	Lys	Ser	Gly	Thr	Met	Thr	Trp	Val	Thr	Thr	Gly	595	600		605
Tyr	Asn	Pro	Asn	Pro	Glu	Arg	Arg	Ala	Ser	Val	Val	Pro	Asp	Ser	Leu	610	615		620
Trp	Ala	Ser	Phe	Thr	Asp	Ile	Arg	Thr	Leu	Gln	Ile	Met	Thr	Ser		625	630		635
Gln	Ala	Asn	Ser	Ile	Tyr	Gln	Gln	Arg	Gly	Leu	Trp	Ala	Ser	Gly	Thr	645	650		655
Ala	Asn	Phe	Phe	His	Lys	Asp	Lys	Ser	Gly	Thr	Asn	Gln	Ala	Phe	Arg	660	665		670
His	Lys	Ser	Tyr	Gly	Tyr	Ile	Val	Gly	Gly	Ser	Ala	Glu	Asp	Phe	Ser	675	680		685
Glu	Asn	Ile	Phe	Ser	Val	Ala	Phe	Cys	Gln	Leu	Phe	Gly	Lys	Asp	Lys	690	695		700
Asp	Leu	Phe	Ile	Val	Glu	Asn	Thr	Ser	His	Asn	Tyr	Leu	Ala	Ser	Leu	705	710		715
Tyr	Leu	Gln	His	Arg	Ala	Phe	Leu	Gly	Gly	Leu	Pro	Met	Pro	Ser	Phe	725	730		735
Gly	Ser	Ile	Thr	Asp	Met	Leu	Lys	Asp	Ile	Pro	Leu	Ile	Leu	Asn	Ala	740	745		750
Gln	Leu	Ser	Tyr	Ser	Tyr	Thr	Lys	Asn	Asp	Met	Asp	Thr	Arg	Tyr	Thr	755	760		765
Ser	Tyr	Pro	Glu	Ala	Gln	Gly	Ser	Trp	Thr	Asn	Asn	Ser	Gly	Ala	Leu	770	775		780

Glu Leu Gly Gly Ser Leu Ala Leu Tyr Leu Pro Lys Glu Ala Pro Phe
 785 790 795 800
 Phe Gln Gly Tyr Phe Pro Phe Leu Lys Phe Gln Ala Val Tyr Ser Arg
 805 810 815
 Gln Gln Asn Phe Lys Glu Ser Gly Ala Glu Ala Arg Ala Phe Asp Asp
 820 825 830
 Gly Asp Leu Val Asn Cys Ser Ile Pro Val Gly Ile Arg Leu Glu Lys
 835 840 845
 Ile Ser Glu Asp Glu Lys Asn Asn Phe Glu Ile Ser Leu Ala Tyr Ile
 850 855 860
 Gly Asp Val Tyr Arg Lys Asn Pro Arg Ser Arg Thr Ser Leu Met Val
 865 870 875 880
 Ser Gly Ala Ser Trp Thr Ser Leu Cys Lys Asn Leu Ala Arg Gln Ala
 885 890 895
 Phe Leu Ala Ser Ala Gly Ser His Leu Thr Leu Ser Pro His Val Glu
 900 905 910
 Leu Ser Gly Glu Ala Ala Tyr Glu Leu Arg Gly Ser Ala His Ile Tyr
 915 920 925
 Asn Val Asp Cys Gly Leu Arg Tyr Ser Phe
 930 935

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0447

<400> 449
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 Ala Phe Ala Ala Val Val Glu Ile Asn Leu Gly Pro Thr Asn Ser Phe
 35 40 45
 Ser Gly Pro Gly Thr Tyr Thr Pro Pro Ala Gln Thr Thr Asn Ala Asp
 50 55 60
 Gly Thr Ile Tyr Asn Leu Thr Gly Asp Val Ser Ile Thr Asn Ala Gly
 65 70 75 80
 Ser Pro Thr Ala Leu Thr Ala Ser Cys Phe Lys Glu Thr Thr Gly Asn
 85 90 95
 Leu Ser Phe Gln Gly His Gly Tyr Gln Phe Leu Leu Gln Asn Ile Asp
 100 105 110
 Ala Gly Ala Asn Cys Thr Phe Thr Asn Thr Ala Ala Asn Lys Leu Leu
 115 120 125
 Ser Phe Ser Gly Phe Ser Tyr Leu Ser Leu Ile Gln Thr Thr Asn Ala
 130 135 140
 Thr Thr Gly Thr Gly Ala Ile Lys Ser Thr Gly Ala Cys Ser Ile Gln
 145 150 155 160
 Ser Asn Tyr Ser Cys Tyr Phe Gly Gln Asn Phe Ser Asn Asp Asn Gly
 165 170 175
 Gly Ala Leu Gln Gly Ser Ser Ile Ser Leu Ser Leu Asn Pro Asn Leu
 180 185 190
 Thr Phe Ala Lys Asn Lys Ala Thr Gln Lys Gly Gly Ala Leu Tyr Ser
 195 200 205
 Thr Gly Gly Ile Thr Ile Asn Asn Thr Leu Asn Ser Ala Ser Phe Ser
 210 215 220
 Glu Asn Thr Ala Ala Asn Asn Gly Gly Ala Ile Tyr Thr Glu Ala Ser
 225 230 235 240

Ser	Phe	Ile	Ser	Ser	Asn	Lys	Ala	Ile	Ser	Phe	Ile	Asn	Asn	Ser	Val
				245					250					255	
Thr	Ala	Thr	Ser	Ala	Thr	Gly	Gly	Ala	Ile	Tyr	Cys	Ser	Ser	Thr	Ser
			260					265					270		
Ala	Pro	Lys	Pro	Val	Leu	Thr	Leu	Ser	Asp	Asn	Gly	Glu	Leu	Asn	Phe
		275					280					285			
Ile	Gly	Asn	Thr	Ala	Ile	Thr	Ser	Gly	Gly	Ala	Ile	Tyr	Thr	Asp	Asn
	290					295					300				
Leu	Val	Leu	Ser	Ser	Gly	Gly	Pro	Thr	Leu	Phe	Lys	Asn	Asn	Ser	Ala
305					310					315				320	
Ile	Asp	Thr	Ala	Ala	Pro	Leu	Gly	Gly	Ala	Ile	Ala	Ile	Ala	Asp	Ser
				325					330					335	
Gly	Ser	Leu	Ser	Leu	Ser	Ala	Leu	Gly	Gly	Asp	Ile	Thr	Phe	Glu	Gly
			340					345					350		
Asn	Thr	Val	Val	Lys	Gly	Ala	Ser	Ser	Ser	Gln	Thr	Thr	Thr	Arg	Asn
		355					360						365		
Ser	Ile	Asn	Ile	Gly	Asn	Thr	Asn	Ala	Lys	Ile	Val	Gln	Leu	Arg	Ala
	370					375					380				
Ser	Gln	Gly	Asn	Thr	Ile	Tyr	Phe	Tyr	Asp	Pro	Ile	Thr	Thr	Ser	Ile
385					390					395				400	
Thr	Ala	Ala	Leu	Ser	Asp	Ala	Leu	Asn	Leu	Asn	Gly	Pro	Asp	Leu	Ala
				405					410					415	
Gly	Asn	Pro	Ala	Tyr	Gln	Gly	Thr	Ile	Val	Phe	Ser	Gly	Glu	Lys	Leu
			420					425					430		
Ser	Glu	Ala	Glu	Ala	Ala	Glu	Ala	Asp	Asn	Leu	Lys	Ser	Thr	Ile	Gln
		435					440					445			
Gln	Pro	Leu	Thr	Leu	Ala	Gly	Gly	Gln	Leu	Ser	Leu	Lys	Ser	Gly	Val
	450					455					460				
Thr	Leu	Val	Ala	Lys	Ser	Phe	Ser	Gln	Ser	Pro	Gly	Ser	Thr	Leu	Leu
465					470					475				480	
Met	Asp	Ala	Gly	Thr	Thr	Leu	Glu	Thr	Ala	Asp	Gly	Ile	Thr	Ile	Asn
				485					490					495	
Asn	Leu	Val	Leu	Asn	Val	Asp	Ser	Leu	Lys	Glu	Thr	Lys	Lys	Ala	Thr
		500						505					510		
Leu	Lys	Ala	Thr	Gln	Ala	Ser	Gln	Thr	Val	Thr	Leu	Ser	Gly	Ser	Leu
		515					520					525			
Ser	Leu	Val	Asp	Pro	Ser	Gly	Asn	Val	Tyr	Glu	Asp	Val	Ser	Trp	Asn
	530					535					540				
Asn	Pro	Gln	Val	Phe	Ser	Cys	Leu	Thr	Leu	Thr	Ala	Asp	Asp	Pro	Ala
545					550					555				560	
Asn	Ile	His	Ile	Thr	Asp	Leu	Ala	Ala	Asp	Pro	Leu	Glu	Lys	Asn	Pro
				565					570					575	
Ile	His	Trp	Gly	Tyr	Gln	Gly	Asn	Trp	Ala	Leu	Ser	Trp	Gln	Glu	Asp
			580					585					590		
Thr	Ala	Thr	Lys	Ser	Lys	Ala	Ala	Thr	Leu	Thr	Trp	Thr	Lys	Thr	Gly
		595					600					605			
Tyr	Asn	Pro	Asn	Pro	Glu	Arg	Arg	Gly	Thr	Leu	Val	Ala	Asn	Thr	Leu
	610					615					620				
Trp	Gly	Ser	Phe	Val	Asp	Val	Arg	Ser	Ile	Gln	Gln	Leu	Val	Ala	Thr
625					630					635				640	
Lys	Val	Arg	Gln	Ser	Gln	Glu	Thr	Arg	Gly	Ile	Trp	Cys	Glu	Gly	Ile
				645					650					655	
Ser	Asn	Phe	Phe	His	Lys	Asp	Ser	Thr	Lys	Ile	Asn	Lys	Gly	Phe	Arg
			660					665					670		
His	Ile	Ser	Ala	Gly	Tyr	Val	Val	Gly	Ala	Thr	Thr	Thr	Leu	Ala	Ser
	675						680					685			
Asp	Asn	Leu	Ile	Thr	Ala	Ala	Phe	Cys	Gln	Leu	Phe	Gly	Lys	Asp	Arg
	690					695					700				
Asp	His	Phe	Ile	Asn	Lys	Asn	Arg	Ala	Ser	Ala	Tyr	Ala	Ala	Ser	Leu
705					710					715				720	

His Leu Gln His Leu Ala Thr Leu Ser Ser Pro Ser Leu Leu Arg Tyr
 725 730 735
 Leu Pro Gly Ser Glu Ser Glu Gln Pro Val Leu Phe Asp Ala Gln Ile
 740 745 750
 Ser Tyr Ile Tyr Ser Lys Asn Thr Met Lys Thr Tyr Tyr Thr Gln Ala
 755 760 765
 Pro Lys Gly Glu Ser Ser Trp Tyr Asn Asp Gly Cys Ala Leu Glu Leu
 770 775 780
 Ala Ser Ser Leu Pro His Thr Ala Leu Ser His Glu Gly Leu Phe His
 785 790 795 800
 Ala Tyr Phe Pro Phe Ile Lys Val Glu Ala Ser Tyr Ile His Gln Asp
 805 810 815
 Ser Phe Lys Glu Arg Asn Thr Thr Leu Val Arg Ser Phe Asp Ser Gly
 820 825 830
 Asp Leu Ile Asn Val Ser Val Pro Ile Gly Ile Thr Phe Glu Arg Phe
 835 840 845
 Ser Arg Asn Glu Arg Ala Ser Tyr Glu Ala Thr Val Ile Tyr Val Ala
 850 855 860
 Asp Val Tyr Arg Lys Asn Pro Asp Cys Thr Thr Ala Leu Leu Ile Asn
 865 870 875 880
 Asn Thr Ser Trp Lys Thr Thr Gly Thr Asn Leu Ser Arg Gln Ala Gly
 885 890 895
 Ile Gly Arg Ala Gly Ile Phe Tyr Ala Phe Ser Pro Asn Leu Glu Val
 900 905 910
 Thr Ser Asn Leu Ser Met Glu Ile Arg Gly Ser Ser Arg Ser Tyr Asn
 915 920 925
 Ala Asp Leu Gly Gly Lys Phe Gln Phe
 930 935

<210> 450
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0448

<400> 450
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 1 5 10 15
 Leu Gly Ser Ser Leu Arg Met Glu Met Met Ser Pro Phe Gln Gln Pro
 20 25 30
 Glu Gln Cys His Phe Asp Val Val Gly Ser Phe Leu Arg Pro Glu Ser
 35 40 45
 Leu Thr Arg Ala Arg Ser Asp Phe Glu Glu Gly Arg Ile Val Tyr Glu
 50 55 60
 Gln Met Arg Val Val Glu Asp Ala Ala Ile Arg Asn Leu Ile Lys Lys
 65 70 75 80
 Gln Thr Glu Ala Gly Leu Ile Phe Phe Thr Asp Gly Glu Phe Arg Arg
 85 90 95
 Tyr Ser Trp Asp Phe Asp Phe Met Trp Gly Phe His Gly Val Asp Arg
 100 105 110
 Arg Arg Asp Ser Asn Asp Pro Glu Ile Gly Val Tyr Leu Lys Asp Lys
 115 120 125
 Ile Ser Val Ser Lys His Pro Phe Ile Glu His Phe Glu Phe Val Lys
 130 135 140
 Thr Phe Glu Lys Gly Asn Ala Lys Ala Lys Gln Thr Ile Pro Ser Pro
 145 150 155 160
 Ser Gln Phe Phe His Glu Met Ile Phe Ala Pro Asn Leu Lys Asn Thr
 165 170 175

Arg Lys Phe Tyr Pro Thr Asn Gln Glu Leu Ile Asp Asp Ile Val Phe
 180 185 190
 Tyr Tyr Arg Gln Val Ile Gln Asp Leu Tyr Ala Ala Gly Cys Arg Asn
 195 200 205
 Leu Gln Leu Asp Asp Cys Ala Trp Cys Arg Leu Leu Asp Ile Arg Ala
 210 215 220
 Pro Ser Trp Tyr Gly Val Asp Ser His Asp Arg Leu Gln Glu Ile Leu
 225 230 235 240
 Glu Gln Phe Leu Trp Ile His Asn Leu Val Met Lys Asp Arg Pro Glu
 245 250 255
 Asp Leu Phe Val Ser Leu His Val Cys Arg Gly Asp Tyr Gln Ala Glu
 260 265 270
 Phe Phe Ser Arg Arg Ala Tyr Asp Ser Ile Glu Glu Pro Leu Phe Ala
 275 280 285
 Lys Thr Asp Val Asp Ser Tyr His Tyr Tyr Trp Ala Leu Asp Asp Lys
 290 295 300
 Tyr Ser Gly Gly Ala Glu Pro Leu Ala Tyr Val Ser Gly Glu Lys His
 305 310 315 320
 Val Cys Leu Gly Leu Ile Ser Ser Asn His Ser Cys Ile Glu Asp Arg
 325 330 335
 Asp Ala Val Val Ser Arg Ile Tyr Glu Ala Ala Ser Tyr Ile Pro Leu
 340 345 350
 Glu Arg Leu Ser Leu Ser Pro Gln Cys Gly Phe Ala Ser Cys Glu Gly
 355 360 365
 Asp His Arg Met Thr Glu Glu Glu Gln Trp Lys Lys Ile Ala Phe Val
 370 375 380
 Lys Glu Ile Ala Lys Glu Ile Trp Gly
 385 390

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0449

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 Glu Ala Tyr Thr Gly Phe Arg Gly Gly Gly Gly Ile Ser Phe Ser Asn
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 Asn Ile Val Gln Gly Thr Thr Ala Gly Asn Gly Gly Ala Ile Ser Ile
 20 25 30
 Leu Ala Ala Gly Glu Cys Ser Leu Ser Ala Glu Ala Gly Asp Ile Thr
 35 40 45
 Phe Asn Gly Asn Ala Ile Val Ala Thr Thr Pro Gln Thr Thr Lys Arg
 50 55 60
 Asn Ser Ile Asp Ile Gly Ser Thr Ala Lys Ile Thr Asn Leu Arg Ala
 65 70 75 80
 Ile Ser Gly His Ser Ile Phe Phe Tyr Asp Pro Ile Thr Ala Asn Thr
 85 90 95
 Ala Ala Asp Ser Thr Asp Thr Leu Asn Leu Asn Lys Ala Asp Ala Gly
 100 105 110
 Asn Ser Thr Asp Tyr Ser Gly Ser Ile Val Phe Ser Gly Glu Lys Leu
 115 120 125
 Ser Glu Asp Glu Ala Lys Val Ala Asp Asn Leu Thr Ser Thr Leu Lys
 130 135 140
 Gln Pro Val Thr Leu Thr Ala Gly Asn Leu Val Leu Lys Arg Gly Val
 145 150 155 160
 Thr Leu Asp Thr Lys Gly Phe Thr Gln Thr Ala Gly Ser Ser Val Ile
 165 170 175

Met Asp Ala Gly Thr Thr Leu Lys Ala Ser Thr Glu Glu Val Thr Leu
 180 185 190
 Thr Gly Leu Ser Ile Pro Val Asp Ser Leu Gly Glu Gly Lys Lys Val
 195 200 205
 Val Ile Ala Ala Ser Ala Ala Ser Lys Asn Val Ala Leu Ser Gly Pro
 210 215 220
 Ile Leu Leu Leu Asp Asn Gln Gly Asn Ala Tyr Glu Asn His Asp Leu
 225 230 235 240
 Gly Lys Thr Gln Asp Phe Ser Phe Val Gln Leu Ser Ala Leu Gly Thr
 245 250 255
 Ala Thr Thr Thr Asp Val Pro Ala Val Pro Thr Val Ala Thr Pro Thr
 260 265 270
 His Tyr Gly Tyr Gln Gly Thr Trp Gly Met Thr Trp Val Asp Asp Thr
 275 280 285
 Ala Ser Thr Pro Lys Thr Lys Thr Ala Thr Leu Ala Trp Thr Asn Thr
 290 295 300
 Gly Tyr Leu Pro Asn Pro Glu Arg Gln Gly Pro Leu Val Pro Asn Ser
 305 310 315 320
 Leu Trp Gly Ser Phe Ser Asp Ile Gln Ala Ile Gln Gly Val Ile Glu
 325 330 335
 Arg Ser Ala Leu Thr Leu Cys Ser Asp Arg Gly Phe Trp Ala Ala Gly
 340 345 350
 Val Ala Asn Phe Leu Asp Lys Asp Lys Lys Gly Glu Lys Arg Lys Tyr
 355 360 365
 Arg His Lys Ser Gly Gly Tyr Ala Ile Gly Gly Ala Ala Gln Thr Cys
 370 375 380
 Ser Glu Asn Leu Ile Ser Phe Ala Phe Cys Gln Leu Phe Gly Ser Asp
 385 390 395 400
 Lys Asp Phe Leu Val Ala Lys Asn His Thr Asp Thr Tyr Ala Gly Ala
 405 410 415
 Phe Tyr Ile Gln His Ile Thr Glu Cys Ser Gly Phe Ile Gly Cys Leu
 420 425 430
 Leu Asp Lys Leu Pro Gly Ser Trp Ser His Lys Pro Leu Val Leu Glu
 435 440 445
 Gly Gln Leu Ala Tyr Ser His Val Ser Asn Asp Leu Lys Thr Lys Tyr
 450 455 460
 Thr Ala Tyr Pro Glu Val Lys Gly Ser Trp Gly Asn Asn Ala Phe Asn
 465 470 475 480
 Met Met Leu Gly Ala Ser Ser His Ser Tyr Pro Glu Tyr Leu His Cys
 485 490 495
 Phe Asp Thr Tyr Ala Pro Tyr Ile Lys Leu Asn Leu Thr Tyr Ile Arg
 500 505 510
 Gln Asp Ser Phe Ser Glu Lys Gly Thr Glu Gly Arg Ser Phe Asp Asp
 515 520 525
 Ser Asn Leu Phe Asn Leu Ser Leu Pro Ile Gly Val Lys Phe Glu Lys
 530 535 540
 Phe Ser Asp Cys Asn Asp Phe Ser Tyr Asp Leu Thr Leu Ser Tyr Val
 545 550 555 560
 Pro Asp Leu Ile Arg Asn Asp Pro Lys Cys Thr Thr Ala Leu Val Ile
 565 570 575
 Ser Gly Ala Ser Trp Glu Thr Tyr Ala Asn Asn Leu Ala Arg Gln Ala
 580 585 590
 Leu Gln Val Arg Ala Gly Ser His Tyr Ala Phe Ser Pro Met Phe Glu
 595 600 605
 Val Leu Gly Gln Phe Val Phe Glu Val Arg Gly Ser Ser Arg Ile Tyr
 610 615 620
 Asn Val Asp Leu Gly Gly Lys Phe Gln Phe
 625 630

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0450

<400> 452
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 35 40 45
 Tyr Thr Pro Lys Asn Thr Thr Thr Gly Ile Asp Tyr Thr Leu Thr Gly
 50 55 60
 Asp Ile Thr Leu Gln Asn Leu Gly Asp Ser Ala Ala Leu Thr Lys Gly
 65 70 75 80
 Cys Phe Ser Asp Thr Thr Glu Ser Leu Ser Phe Ala Gly Lys Gly Tyr
 85 90 95
 Ser Leu Ser Phe Leu Asn Ile Lys Ser Ser Ala Glu Gly Ala Ala Leu
 100 105 110
 Ser Val Thr Thr Asp Lys Asn Leu Ser Leu Thr Gly Phe Ser Ser Leu
 115 120 125
 Thr Phe Leu Ala Ala Pro Ser Ser Val Ile Thr Thr Pro Ser Gly Lys
 130 135 140
 Gly Ala Val Lys Cys Gly Gly Asp Leu Thr Phe Asp Asn Asn Gly Thr
 145 150 155 160
 Ile Leu Phe Lys Gln Asp Tyr Cys Glu Glu Asn Gly Gly Ala Ile Ser
 165 170 175
 Thr Lys Asn Leu Ser Leu Lys Asn Ser Thr Gly Ser Ile Ser Phe Glu
 180 185 190
 Gly Asn Lys Ser Ser Ala Thr Gly Lys Lys Gly Gly Ala Ile Cys Ala
 195 200 205
 Thr Gly Thr Val Asp Ile Thr Asn Asn Thr Ala Pro Thr Leu Phe Ser
 210 215 220
 Asn Asn Ile Ala Glu Ala Ala Gly Gly Ala Ile Asn Ser Thr Gly Asn
 225 230 235 240
 Cys Thr Ile Thr Gly Asn Thr Ser Leu Val Phe Ser Glu Asn Ser Val
 245 250 255
 Thr Ala Thr Ala Gly Asn Gly Gly Ala Leu Ser Gly Asp Ala Asp Val
 260 265 270
 Thr Ile Ser Gly Asn Gln Ser Val Thr Phe Ser Gly Asn Gln Ala Val
 275 280 285
 Ala Asn Gly Gly Ala Ile Tyr Ala Lys Lys Leu Thr Leu Ala Ser Gly
 290 295 300
 Gly Gly Gly Val Ser Pro Phe Leu Thr Ile
 305 310

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 <211> 967
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0451

<400> 453
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		20						25					30				
Leu	Lys	Asn	Lys	Ser	Ile	Thr	Met	Lys	Thr	Ser	Ile	Pro	Trp	Val	Leu		
	35						40					45					
Val	Ser	Ser	Val	Leu	Ala	Phe	Ser	Cys	His	Leu	Gln	Ser	Leu	Ala	Asn		
	50					55					60						
Glu	Glu	Leu	Leu	Ser	Pro	Asp	Asp	Ser	Phe	Asn	Gly	Asn	Ile	Asp	Ser		
65					70					75				80			
Gly	Thr	Phe	Thr	Pro	Lys	Thr	Ser	Ala	Thr	Thr	Tyr	Ser	Leu	Thr	Gly		
				85					90					95			
Asp	Val	Phe	Phe	Tyr	Glu	Pro	Gly	Lys	Gly	Thr	Pro	Leu	Ser	Asp	Ser		
		100					105						110				
Cys	Phe	Lys	Gln	Thr	Thr	Asp	Asn	Leu	Thr	Phe	Leu	Gly	Asn	Gly	His		
	115						120					125					
Ser	Leu	Thr	Phe	Gly	Phe	Ile	Asp	Ala	Gly	Thr	His	Ala	Gly	Ala	Ala		
	130					135					140						
Ala	Ser	Thr	Thr	Ala	Asn	Lys	Asn	Leu	Thr	Phe	Ser	Gly	Phe	Ser	Leu		
145					150					155					160		
Leu	Ser	Phe	Asp	Ser	Ser	Pro	Ser	Thr	Thr	Val	Thr	Thr	Gly	Gln	Gly		
			165						170					175			
Thr	Leu	Ser	Ser	Ala	Gly	Gly	Val	Asn	Leu	Glu	Asn	Ile	Arg	Lys	Leu		
			180					185						190			
Val	Val	Ala	Gly	Asn	Phe	Ser	Thr	Ala	Asp	Gly	Gly	Ala	Ile	Lys	Gly		
	195						200					205					
Ala	Ser	Phe	Leu	Leu	Thr	Gly	Thr	Ser	Gly	Asp	Ala	Leu	Phe	Ser	Asn		
	210					215					220						
Asn	Ser	Ser	Ser	Thr	Lys	Gly	Gly	Ala	Ile	Ala	Thr	Thr	Ala	Gly	Ala		
225					230					235					240		
Arg	Ile	Ala	Asn	Asn	Thr	Gly	Tyr	Val	Arg	Phe	Leu	Ser	Asn	Ile	Ala		
			245						250					255			
Ser	Thr	Ser	Gly	Gly	Ala	Ile	Asp	Asp	Glu	Gly	Thr	Ser	Ile	Leu	Ser		
		260					265						270				
Asn	Asn	Lys	Phe	Leu	Tyr	Phe	Glu	Gly	Asn	Ala	Ala	Lys	Thr	Thr	Gly		
	275						280					285					
Gly	Ala	Ile	Cys	Asn	Thr	Lys	Ala	Ser	Gly	Ser	Pro	Glu	Leu	Ile	Ile		
	290					295					300						
Ser	Asn	Asn	Lys	Thr	Leu	Ile	Phe	Ala	Ser	Asn	Val	Ala	Glu	Thr	Ser		
305					310					315					320		
Gly	Gly	Ala	Ile	His	Ala	Lys	Lys	Leu	Ala	Leu	Ser	Ser	Gly	Gly	Phe		
			325						330					335			
Thr	Glu	Phe	Leu	Arg	Asn	Asn	Val	Ser	Ser	Ala	Thr	Pro	Lys	Gly	Gly		
			340					345					350				
Ala	Ile	Ser	Ile	Asp	Ala	Ser	Gly	Glu	Leu	Ser	Leu	Ser	Ala	Glu	Thr		
	355						360					365					
Gly	Asn	Ile	Thr	Phe	Val	Arg	Asn	Thr	Leu	Thr	Thr	Thr	Gly	Ser	Thr		
	370					375					380						
Asp	Thr	Pro	Lys	Arg	Asn	Ala	Ile	Asn	Ile	Gly	Ser	Asn	Gly	Lys	Phe		
385					390				395						400		
Thr	Glu	Leu	Arg	Ala	Ala	Lys	Asn	His	Thr	Ile	Phe	Phe	Tyr	Asp	Pro		
			405						410					415			
Ile	Thr	Ser	Glu	Gly	Thr	Ser	Ser	Asp	Val	Leu	Lys	Ile	Asn	Asn	Gly		
		420					425						430				
Ser	Ala	Gly	Ala	Leu	Asn	Pro	Tyr	Gln	Gly	Thr	Ile	Leu	Phe	Ser	Gly		
	435					440						445					
Glu	Thr	Leu	Thr	Ala	Asp	Glu	Leu	Lys	Val	Ala	Asp	Asn	Leu	Lys	Ser		
	450					455					460						
Ser	Phe	Thr	Gln	Pro	Val	Ser	Leu	Ser	Gly	Gly	Lys	Leu	Leu	Leu	Gln		
465					470					475					480		
Lys	Gly	Val	Thr	Leu	Glu	Ser	Thr	Ser	Phe	Ser	Gln	Glu	Ala	Gly	Ser		
				485					490					495			

Leu Leu Gly Met Asp Ser Gly Thr Thr Leu Ser Thr Thr Ala Gly Ser
 500 505 510
 Ile Thr Ile Thr Asn Leu Gly Ile Asn Val Asp Ser Leu Gly Leu Lys
 515 520 525
 Gln Pro Val Ser Leu Thr Ala Lys Gly Ala Ser Asn Lys Val Ile Val
 530 535 540
 Ser Gly Lys Leu Asn Leu Ile Asp Ile Glu Gly Asn Ile Tyr Glu Ser
 545 550 555 560
 His Met Phe Ser His Asp Gln Leu Phe Ser Leu Leu Lys Ile Thr Val
 565 570 575
 Asp Ala Asp Val Asp Thr Asn Val Asp Ile Ser Ser Leu Ile Pro Val
 580 585 590
 Pro Ala Glu Asp Pro Asn Ser Glu Tyr Gly Phe Gln Gly Gln Trp Asn
 595 600 605
 Val Asn Trp Thr Thr Asp Thr Ala Thr Asn Thr Lys Glu Ala Thr Ala
 610 615 620
 Thr Trp Thr Lys Thr Gly Phe Val Pro Ser Pro Glu Arg Lys Ser Ala
 625 630 635 640
 Leu Val Cys Asn Thr Leu Trp Gly Val Phe Thr Asp Ile Arg Ser Leu
 645 650 655
 Gln Gln Leu Val Glu Ile Gly Ala Thr Gly Met Glu His Lys Gln Gly
 660 665 670
 Phe Trp Val Ser Ser Met Thr Asn Phe Leu His Lys Thr Gly Asp Glu
 675 680 685
 Asn Arg Lys Gly Phe Arg His Thr Ser Gly Gly Tyr Val Ile Gly Gly
 690 695 700
 Ser Ala His Thr Pro Lys Asp Asp Leu Phe Thr Phe Ala Phe Cys His
 705 710 715 720
 Leu Phe Ala Arg Asp Lys Asp Cys Phe Ile Ala His Asn Asn Ser Arg
 725 730 735
 Thr Tyr Gly Gly Thr Leu Phe Phe Lys His Ser His Thr Leu Gln Pro
 740 745 750
 Gln Asn Tyr Leu Arg Leu Gly Arg Ala Lys Phe Ser Glu Ser Ala Ile
 755 760 765
 Glu Lys Phe Pro Arg Glu Ile Pro Leu Ala Leu Asp Val Gln Val Ser
 770 775 780
 Phe Ser His Ser Asp Asn Arg Met Glu Thr His Tyr Thr Ser Leu Pro
 785 790 795 800
 Glu Ser Glu Gly Ser Trp Ser Asn Glu Cys Ile Ala Gly Gly Ile Gly
 805 810 815
 Leu Asp Leu Pro Phe Val Leu Ser Asn Pro His Pro Leu Phe Lys Thr
 820 825 830
 Phe Ile Pro Gln Met Lys Val Glu Met Val Tyr Val Ser Gln Asn Ser
 835 840 845
 Phe Phe Glu Ser Ser Ser Asp Gly Arg Gly Phe Ser Ile Gly Arg Leu
 850 855 860
 Leu Asn Leu Ser Ile Pro Val Gly Ala Lys Phe Val Gln Gly Asp Ile
 865 870 875 880
 Gly Asp Ser Tyr Thr Tyr Asp Leu Ser Gly Phe Phe Val Ser Asp Val
 885 890 895
 Tyr Arg Asn Asn Pro Gln Ser Thr Ala Thr Leu Val Met Ser Pro Asp
 900 905 910
 Ser Trp Lys Ile Arg Gly Gly Asn Leu Ser Arg Gln Ala Phe Leu Leu
 915 920 925
 Arg Gly Ser Asn Asn Tyr Val Tyr Asn Ser Asn Cys Glu Leu Phe Gly
 930 935 940
 His Tyr Ala Met Glu Leu Arg Gly Ser Ser Arg Asn Tyr Asn Val Asp
 945 950 955 960
 Val Gly Thr Lys Leu Arg Phe
 965

<210> 454
 <211> 519
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0452

<400> 454
 Phe Asn Glu Glu Thr Met Thr Ile Leu Arg Asn Phe Leu Thr Cys Ser
 1 5 10 15
 Ala Leu Phe Leu Ala Leu Pro Ala Ala Ala Gln Val Val Tyr Leu His
 20 25 30
 Glu Ser Asp Gly Tyr Asn Gly Ala Ile Asn Asn Lys Ser Leu Glu Pro
 35 40 45
 Lys Ile Thr Cys Tyr Pro Glu Gly Thr Ser Tyr Ile Phe Leu Asp Asp
 50 55 60
 Val Arg Ile Ser Asn Val Lys His Asp Gln Glu Asp Ala Gly Val Phe
 65 70 75 80
 Ile Asn Arg Ser Gly Asn Leu Phe Phe Met Gly Asn Arg Cys Asn Phe
 85 90 95
 Thr Phe His Asn Leu Met Thr Glu Gly Phe Gly Ala Ala Ile Ser Asn
 100 105 110
 Arg Val Gly Asp Thr Thr Leu Thr Leu Ser Asn Phe Ser Tyr Leu Ala
 115 120 125
 Phe Thr Ser Ala Pro Leu Leu Pro Gln Gly Gln Gly Ala Ile Tyr Ser
 130 135 140
 Leu Gly Ser Val Met Ile Glu Asn Ser Glu Glu Val Thr Phe Cys Gly
 145 150 155 160
 Asn Tyr Ser Ser Trp Ser Gly Ala Ala Ile Tyr Thr Pro Tyr Leu Leu
 165 170 175
 Gly Ser Lys Ala Ser Arg Pro Ser Val Asn Leu Ser Gly Asn Arg Tyr
 180 185 190
 Leu Val Phe Arg Asp Asn Val Ser Gln Gly Tyr Gly Gly Ala Ile Ser
 195 200 205
 Thr His Asn Leu Thr Leu Thr Thr Arg Gly Pro Ser Cys Phe Glu Asn
 210 215 220
 Asn His Ala Tyr His Asp Val Asn Ser Asn Gly Gly Ala Ile Ala Ile
 225 230 235 240
 Ala Pro Gly Gly Ser Ile Ser Ile Ser Val Lys Ser Gly Asp Leu Ile
 245 250 255
 Phe Lys Gly Asn Thr Ala Ser Gln Asp Gly Asn Thr Ile His Asn Ser
 260 265 270
 Ile His Leu Gln Ser Gly Ala Gln Phe Lys Asn Leu Arg Ala Val Ser
 275 280 285
 Glu Ser Gly Val Tyr Phe Tyr Asp Pro Ile Ser His Ser Glu Ser His
 290 295 300
 Lys Ile Thr Asp Leu Val Ile Asn Ala Pro Glu Gly Lys Glu Thr Tyr
 305 310 315 320
 Glu Gly Thr Ile Ser Phe Ser Gly Leu Cys Leu Asp Asp His Glu Val
 325 330 335
 Cys Ala Glu Asn Leu Thr Ser Thr Ile Leu Gln Asp Val Thr Leu Ala
 340 345 350
 Gly Gly Thr Leu Ser Leu Ser Asp Gly Val Thr Leu Gln Leu His Ser
 355 360 365
 Phe Lys Gln Glu Ala Ser Ser Thr Leu Thr Met Ser Pro Gly Thr Thr
 370 375 380
 Leu Leu Cys Ser Gly Asp Ala Arg Val Gln Asn Leu His Ile Leu Ile
 385 390 395 400
 Glu Asp Thr Asp Asn Phe Val Pro Val Arg Ile Arg Ala Glu Asp Lys
 405 410 415

Asp Ala Leu Val Ser Leu Glu Lys Leu Lys Val Ala Phe Glu Ala Tyr
 420 425 430
 Trp Ser Val Tyr Asp Phe Pro Gln Phe Lys Glu Ala Phe Thr Ile Pro
 435 440 445
 Leu Leu Glu Leu Leu Gly Pro Ser Phe Asp Ser Leu Leu Leu Gly Glu
 450 455 460
 Thr Thr Leu Glu Arg Thr Gln Val Thr Thr Glu Asn Asp Ala Val Arg
 465 470 475 480
 Gly Phe Trp Ser Leu Ser Trp Glu Glu Tyr Pro Pro Ser Leu Asp Lys
 485 490 495
 Asp Arg Arg Ile Thr Pro Thr Lys Lys Thr Val Phe Leu Thr Trp Asn
 500 505 510
 Pro Glu Ile Thr Ser Thr Pro
 515

<210> 455
 <211> 999
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0453

 <400> 455
 Asn Cys Val Leu Leu Tyr Leu Phe Phe Tyr Ser Leu Ser Leu Ile Cys
 1 5 10 15
 Arg Ile Ile Trp Phe His Leu Tyr Val Gln Met Lys Thr Ser Ile Arg
 20 25 30
 Lys Phe Leu Ile Ser Thr Thr Leu Ala Pro Cys Phe Ala Ser Thr Ala
 35 40 45
 Phe Thr Val Glu Val Ile Met Pro Ser Glu Asn Phe Asp Gly Ser Ser
 50 55 60
 Gly Lys Ile Phe Pro Tyr Thr Thr Leu Ser Asp Pro Arg Gly Thr Leu
 65 70 75 80
 Cys Ile Phe Ser Gly Asp Leu Tyr Ile Ala Asn Leu Asp Asn Ala Ile
 85 90 95
 Ser Arg Thr Ser Ser Ser Cys Phe Ser Asn Arg Ala Gly Ala Leu Gln
 100 105 110
 Ile Leu Gly Lys Gly Gly Val Phe Ser Phe Leu Asn Ile Arg Ser Ser
 115 120 125
 Ala Asp Gly Ala Ala Ile Ser Ser Val Ile Thr Gln Asn Pro Glu Leu
 130 135 140
 Cys Pro Leu Ser Phe Ser Gly Phe Ser Gln Met Ile Phe Asp Asn Cys
 145 150 155 160
 Glu Ser Leu Thr Ser Asp Thr Ser Ala Ser Asn Val Ile Pro His Ala
 165 170 175
 Ser Ala Ile Tyr Ala Thr Thr Pro Met Leu Phe Thr Asn Asn Asp Ser
 180 185 190
 Ile Leu Phe Gln Tyr Asn Arg Ser Ala Gly Phe Gly Ala Ala Ile Arg
 195 200 205
 Gly Thr Ser Ile Thr Ile Glu Asn Thr Lys Lys Ser Leu Leu Phe Asn
 210 215 220
 Gly Asn Gly Ser Ile Ser Asn Gly Gly Ala Leu Thr Gly Ser Ala Ala
 225 230 235 240
 Ile Asn Leu Ile Asn Asn Ser Ala Pro Val Ile Phe Ser Thr Asn Ala
 245 250 255
 Thr Gly Ile Tyr Gly Gly Ala Ile Tyr Leu Thr Gly Gly Ser Met Leu
 260 265 270
 Thr Ser Gly Asn Leu Ser Gly Val Leu Phe Val Asn Asn Ser Ser Arg
 275 280 285

Ser Gly Gly Ala Ile Tyr Ala Asn Gly Asn Val Thr Phe Ser Asn Asn
 290 295 300
 Ser Asp Leu Thr Phe Gln Asn Asn Thr Ala Ser Pro Gln Asn Ser Leu
 305 310 315 320
 Pro Ala Pro Thr Pro Pro Pro Thr Pro Pro Ala Val Thr Pro Leu Leu
 325 330 335
 Gly Tyr Gly Gly Ala Ile Phe Cys Thr Pro Pro Ala Thr Pro Pro Pro
 340 345 350
 Thr Gly Val Ser Leu Thr Ile Ser Gly Glu Asn Ser Val Thr Phe Leu
 355 360 365
 Glu Asn Ile Ala Ser Glu Gln Gly Gly Ala Leu Tyr Gly Lys Lys Ile
 370 375 380
 Ser Ile Asp Ser Asn Lys Ser Thr Ile Phe Leu Gly Asn Thr Ala Gly
 385 390 395 400
 Lys Gly Gly Ala Ile Ala Ile Pro Glu Ser Gly Glu Leu Ser Leu Ser
 405 410 415
 Ala Asn Gln Gly Asp Ile Leu Phe Asn Lys Asn Leu Ser Ile Thr Ser
 420 425 430
 Gly Thr Pro Thr Arg Asn Ser Ile His Phe Gly Lys Asp Ala Lys Phe
 435 440 445
 Ala Thr Leu Gly Ala Thr Gln Gly Tyr Thr Leu Tyr Phe Tyr Asp Pro
 450 455 460
 Ile Thr Ser Asp Asp Leu Ser Ala Ala Ser Ala Ala Thr Val Val
 465 470 475 480
 Val Asn Pro Lys Ala Ser Ala Asp Gly Ala Tyr Ser Gly Thr Ile Val
 485 490 495
 Phe Ser Gly Glu Thr Leu Thr Ala Thr Glu Ala Ala Thr Pro Ala Asn
 500 505 510
 Ala Thr Ser Thr Leu Asn Gln Lys Leu Glu Leu Glu Gly Gly Thr Leu
 515 520 525
 Ala Leu Arg Asn Gly Ala Thr Leu Asn Val His Asn Phe Thr Gln Asp
 530 535 540
 Glu Lys Ser Val Val Ile Met Asp Ala Gly Thr Thr Leu Ala Thr Thr
 545 550 555 560
 Asn Gly Ala Asn Asn Thr Asp Gly Ala Ile Thr Leu Asn Lys Leu Val
 565 570 575
 Ile Asn Leu Asp Ser Leu Asp Gly Thr Lys Ala Ala Val Val Asn Val
 580 585 590
 Gln Ser Thr Asn Gly Ala Leu Thr Ile Ser Gly Thr Leu Gly Leu Val
 595 600 605
 Lys Asn Ser Gln Asp Cys Cys Asp Asn His Gly Met Phe Asn Lys Asp
 610 615 620
 Leu Gln Gln Val Pro Ile Leu Glu Leu Lys Ala Thr Ser Asn Thr Val
 625 630 635 640
 Thr Thr Thr Asp Phe Ser Leu Gly Thr Asn Gly Tyr Gln Gln Ser Pro
 645 650 655
 Tyr Gly Tyr Gln Gly Thr Trp Glu Phe Thr Ile Asp Thr Thr His
 660 665 670
 Thr Val Thr Gly Asn Trp Lys Lys Thr Gly Tyr Leu Pro His Pro Glu
 675 680 685
 Arg Leu Ala Pro Leu Ile Pro Asn Ser Leu Trp Ala Asn Val Ile Asp
 690 695 700
 Leu Arg Ala Val Ser Gln Ala Ser Ala Ala Asp Gly Glu Asp Val Pro
 705 710 715 720
 Gly Lys Gln Leu Ser Ile Thr Gly Ile Thr Asn Phe Phe His Ala Asn
 725 730 735
 His Thr Gly Asp Ala Arg Ser Tyr Arg His Met Gly Gly Gly Tyr Leu
 740 745 750
 Ile Asn Thr Tyr Thr Arg Ile Thr Pro Asp Ala Ala Leu Ser Leu Gly
 755 760 765

Phe Gly Gln Leu Phe Thr Lys Ser Lys Asp Tyr Leu Val Gly His Gly
 770 775 780
 His Ser Asn Val Tyr Phe Ala Thr Val Tyr Ser Asn Ile Thr Lys Ser
 785 790 795 800
 Leu Phe Gly Ser Ser Arg Phe Phe Ser Gly Gly Thr Ser Arg Val Thr
 805 810 815
 Tyr Ser Arg Ser Asn Glu Lys Val Lys Thr Ser Tyr Thr Lys Leu Pro
 820 825 830
 Lys Gly Arg Cys Ser Trp Ser Asn Asn Cys Trp Leu Gly Glu Leu Glu
 835 840 845
 Gly Asn Leu Pro Ile Thr Leu Ser Ser Arg Ile Leu Asn Leu Lys Gln
 850 855 860
 Ile Ile Pro Phe Val Lys Ala Glu Val Ala Tyr Ala Thr His Gly Gly
 865 870 875 880
 Ile Gln Glu Asn Thr Pro Glu Gly Arg Ile Phe Gly His Gly His Leu
 885 890 895
 Leu Asn Val Ala Val Pro Val Gly Val Arg Phe Gly Lys Asn Ser His
 900 905 910
 Asn Arg Pro Asp Phe Tyr Thr Ile Ile Val Ala Tyr Ala Pro Asp Val
 915 920 925
 Tyr Arg His Asn Pro Asp Cys Asp Thr Thr Leu Pro Ile Asn Gly Ala
 930 935 940
 Thr Trp Thr Ser Ile Gly Asn Asn Leu Thr Arg Ser Thr Leu Leu Val
 945 950 955 960
 Gln Ala Ser Ser His Thr Ser Val Asn Asp Val Leu Glu Ile Phe Gly
 965 970 975
 His Cys Gly Cys Asp Ile Arg Arg Thr Ser Arg Gln Tyr Thr Leu Asp
 980 985 990
 Ile Gly Ser Lys Leu Arg Phe
 995

<210> 456
 <211> 979
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0454

<400> 456
 Gly Met Pro Leu Ser Phe Lys Ser Ser Ser Phe Cys Leu Leu Ala Cys
 1 5 10 15
 Leu Cys Ser Ala Ser Cys Ala Phe Ala Glu Thr Arg Leu Gly Gly Asn
 20 25 30
 Phe Val Pro Pro Ile Thr Asn Gln Gly Glu Glu Ile Leu Leu Thr Ser
 35 40 45
 Asp Phe Val Cys Ser Asn Phe Leu Gly Ala Ser Phe Ser Ser Ser Phe
 50 55 60
 Ile Asn Ser Ser Ser Asn Leu Ser Leu Leu Gly Lys Gly Leu Ser Leu
 65 70 75 80
 Thr Phe Thr Ser Cys Gln Ala Pro Thr Asn Ser Asn Tyr Ala Leu Leu
 85 90 95
 Ser Ala Ala Glu Thr Leu Thr Phe Lys Asn Phe Ser Ser Ile Asn Phe
 100 105 110
 Thr Gly Asn Gln Ser Thr Gly Leu Gly Gly Leu Ile Tyr Gly Lys Asp
 115 120 125
 Ile Val Phe Gln Ser Ile Lys Asp Leu Ile Phe Thr Thr Asn Arg Val
 130 135 140
 Ala Tyr Ser Pro Ala Ser Val Thr Thr Ser Ala Thr Pro Ala Ile Thr
 145 150 155 160

Thr Val Thr Thr Gly Ala Ser Ala Leu Gln Pro Thr Asp Ser Leu Thr
 165 170 175
 Val Glu Asn Ile Ser Gln Ser Ile Lys Phe Phe Gly Asn Leu Ala Asn
 180 185 190
 Phe Gly Ser Ala Ile Ser Ser Ser Pro Thr Ala Val Val Lys Phe Ile
 195 200 205
 Asn Asn Thr Ala Thr Met Ser Phe Ser His Asn Phe Thr Ser Ser Gly
 210 215 220
 Gly Gly Val Ile Tyr Gly Gly Ser Ser Leu Leu Phe Glu Asn Asn Ser
 225 230 235 240
 Gly Cys Ile Ile Phe Thr Ala Asn Ser Cys Val Asn Ser Leu Lys Gly
 245 250 255
 Val Thr Pro Ser Ser Gly Thr Tyr Ala Leu Gly Ser Gly Gly Ala Ile
 260 265 270
 Cys Ile Pro Thr Gly Thr Phe Glu Leu Lys Asn Asn Gln Gly Lys Cys
 275 280 285
 Thr Phe Ser Tyr Asn Gly Thr Pro Asn Asp Ala Gly Ala Ile Tyr Ala
 290 295 300
 Glu Thr Cys Asn Ile Val Gly Asn Gln Gly Ala Leu Leu Leu Asp Ser
 305 310 315 320
 Asn Thr Ala Ala Arg Asn Gly Gly Ala Ile Cys Ala Lys Val Leu Asn
 325 330 335
 Ile Gln Gly Arg Gly Pro Ile Glu Phe Ser Arg Asn Arg Ala Glu Lys
 340 345 350
 Gly Gly Ala Ile Phe Ile Gly Pro Ser Val Gly Asp Pro Ala Lys Gln
 355 360 365
 Thr Ser Thr Leu Thr Ile Leu Ala Ser Glu Gly Asp Ile Ala Phe Gln
 370 375 380
 Gly Asn Met Leu Asn Thr Lys Pro Gly Ile Arg Asn Ala Ile Thr Val
 385 390 395 400
 Glu Ala Gly Gly Glu Ile Val Ser Leu Ser Ala Gln Gly Gly Ser Arg
 405 410 415
 Leu Val Phe Tyr Asp Pro Ile Thr His Ser Leu Pro Thr Thr Ser Pro
 420 425 430
 Ser Asn Lys Asp Ile Thr Ile Asn Ala Asn Gly Ala Ser Gly Ser Val
 435 440 445
 Val Phe Thr Ser Lys Gly Leu Ser Ser Thr Glu Leu Leu Leu Pro Ala
 450 455 460
 Asn Thr Thr Thr Ile Leu Leu Gly Thr Val Lys Ile Ala Ser Gly Glu
 465 470 475 480
 Leu Lys Ile Thr Asp Asn Ala Val Val Asn Val Leu Gly Phe Ala Thr
 485 490 495
 Gln Gly Ser Gly Gln Leu Thr Leu Gly Ser Gly Gly Thr Leu Gly Leu
 500 505 510
 Ala Thr Pro Thr Gly Ala Pro Ala Ala Val Asp Phe Thr Ile Gly Lys
 515 520 525
 Leu Ala Phe Asp Pro Phe Ser Phe Leu Lys Arg Asp Phe Val Ser Ala
 530 535 540
 Ser Val Asn Ala Gly Thr Lys Asn Val Thr Leu Thr Gly Ala Leu Val
 545 550 555 560
 Leu Asp Glu His Asp Val Thr Asp Leu Tyr Asp Met Val Ser Leu Gln
 565 570 575
 Ser Pro Val Ala Ile Pro Ile Ala Val Phe Lys Gly Ala Thr Val Thr
 580 585 590
 Lys Thr Gly Phe Pro Asp Gly Glu Ile Ala Thr Pro Ser His Tyr Gly
 595 600 605
 Tyr Gln Gly Lys Trp Ser Tyr Thr Trp Ser Arg Pro Leu Leu Ile Pro
 610 615 620
 Ala Pro Asp Gly Gly Phe Pro Gly Gly Pro Ser Pro Ser Ala Asn Thr
 625 630 635 640

Leu Tyr Ala Val Trp Asn Ser Asp Thr Leu Val Arg Ser Thr Tyr Ile
 645 650 655
 Leu Asp Pro Glu Arg Tyr Gly Glu Ile Val Ser Asn Ser Leu Trp Ile
 660 665 670
 Ser Phe Leu Gly Asn Gln Ala Phe Ser Asp Ile Leu Gln Asp Val Leu
 675 680 685
 Leu Ile Asp His Pro Gly Leu Ser Ile Thr Ala Lys Ala Leu Gly Ala
 690 695 700
 Tyr Val Glu His Thr Pro Arg Gln Gly His Glu Gly Phe Ser Gly Arg
 705 710 715 720
 Tyr Gly Gly Tyr Gln Ala Ala Leu Ser Met Asn Tyr Thr Asp His Thr
 725 730 735
 Thr Leu Gly Leu Ser Phe Gly Gln Leu Tyr Gly Lys Thr Asn Ala Asn
 740 745 750
 Pro Tyr Asp Ser Arg Cys Ser Glu Gln Met Tyr Leu Leu Ser Phe Phe
 755 760 765
 Gly Gln Phe Pro Ile Val Thr Gln Lys Ser Glu Ala Leu Ile Ser Trp
 770 775 780
 Lys Ala Ala Tyr Gly Tyr Ser Lys Asn His Leu Asn Thr Thr Tyr Leu
 785 790 795 800
 Arg Pro Asp Lys Ala Pro Lys Ser Gln Gly Gln Trp His Asn Asn Ser
 805 810 815
 Tyr Tyr Val Leu Ile Ser Ala Glu His Pro Phe Leu Asn Trp Cys Leu
 820 825 830
 Leu Thr Arg Pro Leu Ala Gln Ala Trp Asp Leu Ser Gly Phe Ile Ser
 835 840 845
 Ala Glu Phe Leu Gly Gly Trp Gln Ser Lys Phe Thr Glu Thr Gly Asp
 850 855 860
 Leu Gln Arg Ser Phe Ser Arg Gly Lys Gly Tyr Asn Val Ser Leu Pro
 865 870 875 880
 Ile Gly Cys Ser Ser Gln Trp Phe Thr Pro Phe Lys Lys Ala Pro Ser
 885 890 895
 Thr Leu Thr Ile Lys Leu Ala Tyr Lys Pro Asp Ile Tyr Arg Val Asn
 900 905 910
 Pro His Asn Ile Val Thr Val Val Ser Asn Gln Glu Ser Thr Ser Ile
 915 920 925
 Ser Gly Ala Asn Leu Arg Arg His Gly Leu Phe Val Gln Ile His Asp
 930 935 940
 Val Val Asp Leu Thr Glu Asp Thr Gln Ala Phe Leu Asn Tyr Thr Phe
 945 950 955 960
 Asp Gly Lys Asn Gly Phe Thr Asn His Arg Val Ser Thr Gly Leu Lys
 965 970 975
 Ser Thr Phe

<210> 457
 <211> 302
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0455

<400> 457
 Arg Tyr Phe Arg Arg Val Trp Leu Arg Phe Leu Leu Leu Val Ser Tyr
 1 5 10 15
 Asp Glu Lys Glu Lys Asp Val Val Val Val Cys Asn His Ser Glu Pro
 20 25 30
 Asn Ile Leu Gly Leu Pro Pro Glu Ala Val Ser Gln Leu Ile Glu Glu
 35 40 45

Leu Ser Asp Glu Gly Tyr Ser Tyr Leu Asn Val Val Arg Cys Asp Leu
 50 55 60
 Ser Gly Glu Thr Thr Val Gln Gln Arg Leu Leu Asn Ala Asp Glu
 65 70 75 80
 Gly Arg Ser Met Thr Val Val Ile Ser Glu Leu Pro Glu Gly His Pro
 85 90 95
 Asp Ile Arg Asn Leu Gln Leu Ala Ser Glu Arg Ile Phe Val Ser Arg
 100 105 110
 Glu Lys Glu Ala Ala Asp Ala Tyr Ala Ser Gly Cys Lys Val Val Ala
 115 120 125
 Phe Asp Asp Glu His Leu Pro Trp Val Ser Ser His Ile Ala Tyr Ala
 130 135 140
 Glu Glu Ile Arg Glu Lys Gln Glu Gln Thr Met Gln Gly Ser Leu Thr
 145 150 155 160
 Glu Glu Gln Leu Gly Ala Leu Leu Cys Asn Thr Val Ser Thr Glu Lys
 165 170 175
 Asn Leu Ala Phe Ala Leu Asp Ala Val Ile Lys Gln Ser Val Trp Arg
 180 185 190
 Phe Arg Asn Pro Asp Leu Phe Ala Tyr Glu Arg Glu Ala Leu Glu Ala
 195 200 205
 Ser Val Thr Asp Ala Leu Val Ser Tyr Val Ser Asn Leu Asp Met Ile
 210 215 220
 Pro Tyr Thr Ser Ser Gln Gly Ile Val Ile Glu Asp Ser Ser Ile Val
 225 230 235 240
 Arg Thr Ser Gln Glu His Thr Leu Ile Val Asn Cys Ala Ala Phe Asp
 245 250 255
 Lys Leu Ala Ser Gln Ile Glu Phe Leu Cys Pro Ser Asp Val Leu Pro
 260 265 270
 Ile Ser Gly Lys Asp Pro Leu Ile Ser Asp Asp Glu Asp Glu Glu Leu
 275 280 285
 Asn Pro Lys Val Ser Ser Ala Ala Asp Ser Lys Asp Lys Thr
 290 295 300

<210> 458
 <211> 414
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0456

<400> 458
 Ile Pro Cys Thr Phe Glu Ser Lys Arg Lys Phe Leu Met Thr His Cys
 1 5 10 15
 Leu His Gly Trp Phe Ser Val Val Arg His His Phe Val Gln Ala Phe
 20 25 30
 Asn Phe Ser Arg Pro Leu Tyr Ser Arg Ile Thr His Phe Ala Leu Gly
 35 40 45
 Val Ile Lys Ala Ile Pro Ile Val Gly His Leu Val Met Gly Val Asp
 50 55 60
 Trp Leu Ile Ser His Cys Phe Glu Arg Gly Val Ser His Pro Gly Phe
 65 70 75 80
 Pro Ser Asp Ile Ala Pro Ile Leu Lys Val Glu Lys Ile Ala Gly Arg
 85 90 95
 Asp His Ile Ser Arg Ile Glu Asn Gln Leu Lys Ser Leu Arg Lys Thr
 100 105 110
 Ile Glu Val Glu Asp Leu Asp Lys Val His Gly Gln Tyr Gln Glu Asn
 115 120 125
 Pro Tyr Ala Asp Met Ala Ser Ser Glu Val Leu Lys Leu Asp Lys Gly
 130 135 140

Val His Val Ser Glu Leu Gly Lys Ala Phe Ser Arg Val Arg Asn Arg
 145 150 155 160
 Ile Thr Arg Ser Tyr Ser Tyr Ala Pro Thr Pro Gln Leu Asp Ser Ile
 165 170 175
 Ala Ile Val Gly Ile Asp Leu Val Ser Pro Glu Glu Gln Glu Asn Leu
 180 185 190
 Val Arg Leu Ala Asn Glu Val Ile Gln Leu Tyr Pro Lys Ser Lys Thr
 195 200 205
 Thr Leu Tyr Leu Leu Ile Asp Phe Asn Lys Glu Trp Val Gly Asp Ile
 210 215 220
 Ser Ser Asp Lys Glu Lys Gln Leu Arg Ser Leu Gly Leu His Ser Glu
 225 230 235 240
 Val Gln Cys Leu Ser Val Leu Glu Pro Gln Gly Ala Glu Gly Glu Asp
 245 250 255
 Thr Lys His Phe Asp Leu Met Val Gly Cys Tyr Gly Lys Asp Ser Tyr
 260 265 270
 Leu Arg Glu Gly Lys Ile Leu Gln Gln Ala Leu Gly Thr Ser Leu Gly
 275 280 285
 Thr Val Pro Trp Val Asn Val Met His Thr Leu Pro Ser Arg Tyr Arg
 290 295 300
 Ser Arg Leu Ser Leu Pro Ile Asn Thr Glu Lys Asp Lys Thr Glu Leu
 305 310 315 320
 Tyr Lys Glu Ile Ser Arg Thr His His Gln Leu His Thr Leu Gly Met
 325 330 335
 Gly Leu Gly Ala Gln Asp Ser Gly Leu Leu Leu Asp Arg Gln Arg Leu
 340 345 350
 His Ala Pro Leu Ser Gln Gly Ser His Cys His Ser Tyr Leu Ala Asp
 355 360 365
 Leu Thr His Glu Glu Leu Lys Ile Leu Leu Phe Ser Ala Phe Val Asp
 370 375 380
 Ala Lys Asn Ile Ser Lys Lys Glu Leu Arg Glu Val Ser Leu Asn Phe
 385 390 395 400
 Ala Asn Asp Thr Ser Val Glu Cys Gly Cys Ala Phe Tyr Phe
 405 410

<210> 459
 <211> 589
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0457

<400> 459
 Val Phe Leu Pro Ser Arg Val Met Ala Ser Cys Leu Ser Ala Trp Phe
 1 5 10 15
 Ser Ile Val Arg Glu His Phe Tyr Arg Ala Phe Asp Phe Ser Leu Pro
 20 25 30
 Phe Cys Ala Arg Ile Thr Glu Phe Val Leu Gly Val Ile Lys Gly Ile
 35 40 45
 Pro Val Val Gly His Ile Ile Val Gly Ile Glu Trp Leu Val Ser Arg
 50 55 60
 Tyr Leu Glu Ser Phe Val Thr Lys Pro Thr Phe Val Ser Asp Val Val
 65 70 75 80
 Ser Leu Leu Lys Thr Glu Lys Val Ala Gly Arg Asp His Ile Ala Arg
 85 90 95
 Val Val Glu Thr Leu Lys Arg Gln Arg Val Ala Val Ala Pro Glu Asp
 100 105 110
 Glu Asp Lys Val His Gly Lys Ile Pro Val His Pro Phe Gly Gly Ile
 115 120 125

Gln Pro Val Glu Val Leu Thr Leu Tyr Pro Glu Val Gln Asp Ala Thr
 130 135 140
 Leu Gly Leu Ala Phe Ser Lys Ile Arg Asn Arg Val Arg Gln Ala Tyr
 145 150 155 160
 Leu Gln Ala Pro Arg Pro Lys Leu Gln Lys Ile Tyr Ile Ile Gly Asn
 165 170 175
 Asp Met Asn Pro Phe Glu Val Asp Asp Phe Leu His Leu Ala Arg Leu
 180 185 190
 Cys Asn Glu Thr Gln Arg Leu Tyr Pro Asp Ala Thr Ile Ser Leu Tyr
 195 200 205
 Leu Thr Ala Ser Gly Gly Arg Asn Ala Met Asp Lys Lys Asn Arg Lys
 210 215 220
 Leu Leu Ser Asp Cys Glu Leu Asn Pro Lys Ile Ala Cys Leu Asp Phe
 225 230 235 240
 Asn Gln Gly Asp Val Val Lys Gln Ala Thr Cys Asp Cys Trp Met Val
 245 250 255
 Tyr His Gly Glu Asn Asp Gln Gly Thr Leu Asn Gln Ile Gln Glu Glu
 260 265 270
 Leu Glu Lys Ser Gly Glu Glu Thr Pro Trp Ile His Val Gly Gln Lys
 275 280 285
 Pro Leu Ser Gln Ser Leu Trp Asp Phe Ser Pro Phe Ser Ser Leu Glu
 290 295 300
 Met Lys Gly Asp Lys Glu Lys Ala Leu Glu Tyr Ser Glu Leu Glu Lys
 305 310 315 320
 Glu Gln Leu Tyr Ser Arg Leu Val Tyr Val Gly Glu Arg Ser Ser Val
 325 330 335
 Leu Ser Leu Gly Phe Gly Asp Ser Arg Ser Gly Ile Leu Met Asp Pro
 340 345 350
 Lys Arg Val His Ala Pro Leu Ser Glu Gly His Tyr Cys His Ser Tyr
 355 360 365
 Leu Ala Asp Leu Glu Asn Pro Gly Leu Gln Lys Thr Ile Leu Ala Ala
 370 375 380
 Phe Leu Asn Pro Lys Glu Leu Ser Ser Thr Ile Leu Gln Pro Ile Ser
 385 390 395 400
 Leu Asn Leu Ile Leu Asn Ser Lys Thr Tyr Leu Arg Gln His Phe Gly
 405 410 415
 Phe Phe Glu Arg Met Ser Arg Ser Asp Arg Asn Val Val Val Val
 420 425 430
 Cys Asp Ser Trp Trp Gly Thr Asp Trp Lys Glu Glu Pro Ser Phe Gln
 435 440 445
 His Phe Ile Met Glu Leu Glu Cys Arg Gly Tyr Ser His Phe Asn Ile
 450 455 460
 Phe Ala Phe Arg Ser Asn Ser Met Cys Val Glu Glu Arg Arg Ile Leu
 465 470 475 480
 Asn Glu Ser Ser Gln Glu Lys Ala Phe Thr Met Ile Phe Cys Glu Asp
 485 490 495
 Ser Val Ser Gln Gly Asp Ile Arg Cys Leu His Leu Ala Ser Glu Gly
 500 505 510
 Met Leu Cys Gly Lys Glu Cys Tyr Ala Val Asp Val Tyr Thr Ser Gly
 515 520 525
 Cys Ala Asn Phe Met Met Glu Glu Val Leu Thr Leu Glu Arg Glu Ser
 530 535 540
 Asn Leu Trp Asn Arg Lys His Gly Leu Trp Lys Arg Glu Val Arg Lys
 545 550 555 560
 Gln Lys Gln Glu Ala Ala Leu Asp Gln Asp Glu Ser Glu Ile Tyr Val
 565 570 575
 Cys Asn Gln Leu Thr Ala Gln Gln Asn Phe Ala Cys Ser
 580 585

<210> 460
 <211> 703
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0458

<400> 460
 Tyr Phe Leu Cys Cys Tyr Leu Lys Leu Phe Val Ser Asn Phe Ile Phe
 1 5 10 15
 Phe Val Val Met Pro Ile Pro Tyr Ile Ser Ser Trp Ile Ser Thr Val
 20 25 30
 Arg Gln His Phe Val Lys Ala Phe Asp Phe Ser Arg Pro Phe Cys Ser
 35 40 45
 Arg Val Thr Asn Phe Ala Leu Gly Val Ile Lys Ala Ile Pro Ile Val
 50 55 60
 Gly His Ile Val Met Gly Met Glu Trp Leu Val Ser Ser Cys Val Ala
 65 70 75 80
 Gly Ile Ile Thr Arg Ser Ser Phe Thr Ser Asp Val Val Gln Ile Val
 85 90 95
 Lys Thr Glu Lys Ala Leu Gly Arg Asp His Ile Ser Arg Val Ala Glu
 100 105 110
 Ile Leu Gln Arg Glu Arg Gly Thr Ile Thr Pro Glu Asn Gln Asp Lys
 115 120 125
 Val His Gly Lys Phe Pro Val Cys Pro Phe Gly Arg Leu Lys Ser Glu
 130 135 140
 Glu Thr Leu Lys Leu Lys Pro Gly Glu Arg Glu Gly Thr Leu Asp Thr
 145 150 155 160
 Val Phe Ser Pro Ile Arg Thr Arg Val Thr Arg Ala Tyr Leu Gln Ala
 165 170 175
 Pro Arg Pro Glu Ile Arg Thr Ile Ser Ile Val Gly Ser Lys Leu Lys
 180 185 190
 Thr Pro Gln Asp Phe Ser Gln Phe Val Ser Leu Ala Asn Glu Thr Gln
 195 200 205
 Arg Leu His Pro Glu Ala Leu Val Cys Leu Tyr Leu Thr Gly Leu Asn
 210 215 220
 Arg Glu Ser Gln Met Cys Asp Thr Thr Thr Ala Glu Lys Lys Gln Tyr
 225 230 235 240
 Leu His Asn Ser Gly Leu Asp Ser Arg Ile Gln Cys Lys Asp Ser Lys
 245 250 255
 Glu Asp Asp Ala Gly Ser Pro Glu Asn Pro Glu Leu Trp Ile Gly Tyr
 260 265 270
 Tyr Ser Arg Glu Gln Gln His Asn Ile Asp Gly Gln Tyr Ile Gln Gln
 275 280 285
 Cys Leu Gly Lys Ser Ala Asp Pro Ile Pro Trp Ile His Val Thr Glu
 290 295 300
 Asp Thr Lys Asp Phe Tyr Tyr Pro Pro Asn Phe Thr Ser Tyr Ser His
 305 310 315 320
 Thr Arg Gln Ser Thr Asp Pro Thr Ser Pro Pro Arg Leu Pro Glu Ser
 325 330 335
 Glu Gly Asp Lys Asp Ser Leu Tyr Gly Gln Leu Ser Arg Ser Tyr His
 340 345 350
 His Glu Tyr Met Leu Gly Leu Gly Leu Lys Pro Glu Asp Ala Gly Leu
 355 360 365
 Leu Met Asp Pro Asp Arg Ile Tyr Ala Pro Leu Ser Gln Gly His Tyr
 370 375 380
 Cys His Ser Tyr Leu Ala Asp Ile Glu Asn Glu Asp Leu Arg Thr Leu
 385 390 395 400
 Val Leu Ser Pro Phe Leu Asp Pro Gly Asn Leu Ser Ser Glu Asp Leu
 405 410 415

Arg Pro Val Ala Phe Asn Ile Ala Arg Leu Pro Leu Glu Leu Asp Ser
 420 425 430
 Leu Phe Phe Arg Leu Val Ala Gly Gln Gln Glu Gly Arg Asn Ile Val
 435 440 445
 Thr Leu Ala His Gly Thr Pro Arg Pro Glu Asp Leu Asp Pro Asp Ser
 450 455 460
 Met Asn Ile Leu Thr Arg Arg Leu Gln Met Ser Gly Tyr Ser Tyr Leu
 465 470 475 480
 Asn Ile Phe Ser Tyr Lys Ser Arg Lys Met Ile Val Lys Glu Arg Gln
 485 490 495
 Phe Phe Gly Asp Arg Ser Glu Gly Lys Ser Phe Thr Leu Ile Leu Phe
 500 505 510
 Glu Asp Pro Ile Ser Ala Ala Asp Phe Arg Cys Leu Gln Leu Ala Ala
 515 520 525
 Glu Gly Met Val Ala Lys Asp Leu Pro Ser Val Ala Asp Ile Cys Ala
 530 535 540
 Ser Gly Cys Ser Cys Ile Gln Phe Ser Glu Met Gln Ser Pro Gln Ala
 545 550 555 560
 Ile Glu Tyr Arg Gln Trp Glu Ala Arg Val Glu Asp Glu Ala Gly Glu
 565 570 575
 Glu Ala Arg Glu Pro Val Ile Tyr Ser Gln Asp Gln Leu Ser Ser Met
 580 585 590
 Leu Thr Thr Gln Gln Asn Phe Val Phe Ser Leu Asp Ala Val Val Lys
 595 600 605
 Gln Ala Ile Trp Arg Phe Arg Ser Lys Gly Leu Leu Thr Met Glu Arg
 610 615 620
 Lys Ala Leu Gly Glu Glu Phe Leu Thr Ala Ile Phe Ser Tyr Leu Gly
 625 630 635 640
 Ser Gln Glu Arg Asn Glu Asn Met Gly Lys Arg Thr Thr Glu Glu His
 645 650 655
 Glu Val Val Ile Ser Phe Glu Glu Leu Asp Arg Met Val Gln Val Leu
 660 665 670
 Pro Ala Glu Val Pro Ala Asp Ser Gly Asn Asp Pro Thr Arg Pro Val
 675 680 685
 Pro Asn Pro Asp Ser Asn Pro Asp Ser Ser Gln Asn Glu Gly Ser
 690 695 700

<210> 461
 <211> 148
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0459

<400> 461
 Ser Thr Lys Ile Gln Met His Pro Gly Leu Arg Asn Trp Arg Thr Ser
 1 5 10 15
 Thr Asn Lys Leu Arg Glu Glu Gly Ser Val Ser Phe Arg Glu Tyr Phe
 20 25 30
 Arg Ala Tyr Met Cys Asp Lys Ile Val Ala Gln Lys Asn Phe Leu Phe
 35 40 45
 Thr Leu Asp Ala Val Ile Lys Gln Ala Gly Trp Arg Ser Gln Glu Lys
 50 55 60
 Leu Asn Leu Phe Tyr Val Glu Ser Gln Ala Leu Gly Arg Glu Ile Lys
 65 70 75 80
 Val Ser Leu Glu Glu Tyr Ile Gln Ser Met Val Gly Ile Leu Gly Ser
 85 90 95
 Gln Arg Thr Lys Lys Ser Phe Lys Phe Ser Val Asp Phe Thr Pro Leu
 100 105 110

Glu Gln Ala Leu Gln Glu Arg Cys Ser Ser Asp Asp Asp Glu Asp Ala
 115 120 125
 Thr Ala Thr Ser Thr Ala Thr Gly Ala Thr Ala Ser Pro Thr Asp Met
 130 135 140
 His Glu Asp Glu
 145

<210> 462
 <211> 283
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0460

<400> 462
 Val Ile Gln His Leu Leu Asn Phe Ala Leu Glu Glu Thr Pro Ser Ile
 1 5 10 15
 Ser Val Gln Tyr Gln Glu Gln Glu Lys Leu Ser Pro Cys Asp His Ser
 20 25 30
 Pro Glu Ile Gly Lys Lys Lys Arg Trp Asn Lys Leu Glu Ser Phe Ser
 35 40 45
 Thr Tyr Cys Ser Leu Phe Met Ser Val Lys Asp His Tyr Lys Leu Asn
 50 55 60
 Leu Gly Ile Gln Asn Ser Leu Ser Gly Trp Leu Leu Asp Pro Tyr Arg
 65 70 75 80
 Val Cys Ala Pro Leu Ser Ser Pro Tyr Ser Cys Pro Ser Tyr Leu Leu
 85 90 95
 Asp Leu Gln Asn Lys Glu Leu Arg Arg Ser Leu Leu Ser Thr Phe Leu
 100 105 110
 Asp Pro Lys Asn Leu Thr Ser Glu Thr Phe Arg Ser Val Ser Ile Asn
 115 120 125
 Phe Gly Asn Ser Ser Phe Gly Gln Arg Trp Ser Glu Phe Leu Ser Arg
 130 135 140
 Val Leu His Asp Glu Lys Glu Lys His Val Ala Val Val Cys Asn Asp
 145 150 155 160
 Ala Lys Leu Leu Glu Glu Gly Leu Ser Pro Glu Ala Leu Ser Leu Leu
 165 170 175
 Glu Glu Asp Leu Arg Glu Ser Gly Tyr Ser Tyr Leu Asn Ile Leu Ser
 180 185 190
 Val Ser Pro Glu Gly Val Ser Lys Val Gln Glu Arg Gln Ile Leu Arg
 195 200 205
 Arg Asp Leu Gln Gly Arg Ser Phe Thr Val Met Ile Thr Asp Leu Pro
 210 215 220
 Leu Gly Ser Glu Asp Ile Arg Ser Leu Gln Leu Ala Ser Asp Arg Ile
 225 230 235 240
 Leu Val Ser Ser Ser Leu Asp Ala Ala Asp Ala Cys Ala Ser Gly Cys
 245 250 255
 Lys Val Leu Val Tyr Glu Asn Pro Asn Ala Ser Trp Ala Gln Glu Leu
 260 265 270
 Glu Asn Phe Tyr Lys Gln Val Glu Arg Arg Arg
 275 280

<210> 463
 <211> 268
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0461

<400> 463

Ile	Ser	Ile	Val	Ala	Cys	Pro	Ser	Ile	Ser	Ser	Trp	Phe	Thr	Val	Val
1				5					10					15	
Arg	Gln	His	Phe	Val	Asn	Ala	Phe	Asp	Phe	Thr	His	Pro	Val	Cys	Ser
			20					25					30		
Arg	Ile	Thr	Asn	Phe	Ala	Leu	Gly	Ile	Ile	Lys	Ala	Ile	Pro	Val	Leu
		35					40					45			
Gly	His	Ile	Val	Met	Gly	Ile	Glu	Trp	Leu	Ile	Ser	Trp	Ile	Pro	Arg
	50					55					60				
His	Thr	Val	Arg	His	Gly	Met	Phe	Thr	Ser	Asp	Val	Ser	Ser	Ala	Ile
65					70					75				80	
Lys	Val	Glu	Gln	Thr	Arg	Gly	His	Asn	Cys	Leu	Ala	Pro	Leu	Glu	Ala
				85				90					95		
Tyr	Leu	Ser	Ser	Leu	Arg	Val	Pro	Ile	Ser	Gln	Glu	Asp	Leu	Gly	Lys
			100					105					110		
Val	His	Gly	Arg	Thr	Pro	Glu	Asp	Pro	Phe	Val	Asp	Ile	Thr	Pro	Thr
		115					120					125			
Glu	Ile	Val	Gln	Leu	Leu	Pro	Asp	Glu	Glu	Leu	Ser	Thr	Val	Asp	Glu
	130					135					140				
Ala	Leu	Gln	Gly	Val	Arg	Ser	Arg	Leu	Thr	Tyr	Ala	Tyr	Arg	Ser	Val
145					150					155				160	
Glu	Lys	Pro	Met	Ile	Gln	Asp	Leu	Ala	Leu	Val	Gly	Phe	Gly	Leu	Arg
				165				170						175	
Asp	Ser	Ala	Asp	Leu	Ile	Asn	Phe	Val	Arg	Leu	Ala	Asn	Gly	Val	Gln
			180					185					190		
Asn	His	Tyr	Pro	His	Thr	Lys	Val	Lys	Leu	Tyr	Leu	Ala	Lys	Asn	Leu
	195					200						205			
Ala	Asp	Val	Trp	Asp	Cys	Glu	Ile	Ser	Glu	Glu	Glu	Lys	Gly	Gln	Leu
	210					215					220				
Arg	Ala	Leu	Gly	Leu	Asp	Pro	Lys	Ile	Glu	Ser	Ile	Ser	Leu	Thr	Ser
225					230					235				240	
Ala	Gly	Leu	Pro	Ser	Val	Pro	Glu	Val	Ala	Thr	Val	Asp	Phe	Met	Ile
				245				250						255	
Thr	Cys	Tyr	Gly	Lys	Asp	Gln	Glu	Val	Gln	Asp	Pro				
			260					265							

<210> 464
 <211> 696
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0462

<400> 464

Leu	Ile	Phe	Tyr	Leu	Phe	Leu	Asn	Leu	Tyr	Ile	Ala	Cys	Val	Arg	Phe
1				5					10					15	
His	Phe	Gln	Cys	Trp	Phe	Asp	Pro	Met	Ala	Cys	Tyr	Ile	Ser	Ile	Trp
			20					25					30		
Ile	Ser	Thr	Val	Lys	Gln	His	Phe	Ile	Arg	Ala	Phe	Asp	Phe	Thr	Arg
		35					40					45			
Pro	Leu	Gly	Ser	Arg	Ile	Thr	Asn	Phe	Ala	Leu	Gly	Val	Ile	Lys	Ala
	50					55					60				
Ile	Pro	Ile	Leu	Gly	Cys	Val	Val	Ile	Gly	Val	Ser	Trp	Leu	Val	Ser
65					70					75				80	
Thr	Cys	Ser	Ala	Arg	Arg	Phe	Gly	Lys	Pro	Ala	Phe	Thr	Ser	Asp	Val
				85				90					95		
Ala	Ser	Ile	Val	Lys	Ile	Glu	Lys	Thr	Arg	Gly	Tyr	Asn	Pro	Leu	Ala
			100					105					110		
Trp	Val	Glu	Gln	Tyr	Leu	Arg	Gln	Leu	Arg	Val	Arg	Leu	Pro	Glu	Gly
		115					120						125		

Asp Leu Gly Lys Ile His Gly Lys Val Ser Arg Asp Tyr Val Cys Asp
 130 135 140
 Arg Thr Pro Gln Glu Asn Leu Asn Met Val Pro His Gln Tyr Leu Gly
 145 150 155 160
 Glu Leu Gly Arg Ala Phe Tyr Gly Ile Arg Asn Arg Val Thr Lys Ala
 165 170 175
 Tyr Gln Arg Val Thr Pro Leu Glu Val Pro Cys Leu Thr Leu Val Gly
 180 185 190
 Phe Asp Ile Leu Asp Pro Glu Asp Gln Val Asn Phe Val Arg Leu Ala
 195 200 205
 Asn Gly Ile Gln Thr Gln Tyr Pro Gln Thr Gln Ile Lys Leu Tyr Leu
 210 215 220
 Ile Ser Ile Gln Lys Ile Trp Asn Gln Cys Asp Gly Thr Ile Ser Gln
 225 230 235 240
 Glu Lys Glu Gln Gln Leu Arg Ser Leu Gly Leu Asp Ala Lys Ile Lys
 245 250 255
 Cys Val Ser Ala Pro Ala Leu Leu Leu Gln Lys Tyr Leu Gln Ser Glu
 260 265 270
 Asn Leu Pro Ser Cys Asp Leu Leu Ile Asn Tyr Tyr Gly Lys Gln Gln
 275 280 285
 Ser Val Arg Asp Val Asp Ser Ile Lys Ser Leu Leu Asn Leu Ser Ser
 290 295 300
 Glu His Ile Pro Ala Ile Ser Val Thr Tyr Arg Pro Asp Asp Pro Phe
 305 310 315 320
 Tyr Ser Tyr Tyr Phe Phe Pro Gly Ser Gln Gly Gly Thr Ala Pro Asp
 325 330 335
 Gln Arg Ile Pro Trp Ser Glu Gln Glu His Leu Gln Thr Tyr Thr Thr
 340 345 350
 Leu Ser Asn Pro Arg Cys Asp Arg Tyr Ala Val His Leu Gly Met Glu
 355 360 365
 Asp Phe Ala Ser Gly Val Phe Leu Asp Pro Leu Arg Val Ser Ala Pro
 370 375 380
 Leu Ser Gly Glu Tyr Ser Cys Pro Ser Tyr Leu Leu Asp Leu Lys Ser
 385 390 395 400
 Glu Glu Leu Arg Cys Phe Leu Leu Ser Ala Phe Ile Asp Pro Asn Asn
 405 410 415
 Ser Gly Gln Gly Asn Pro Arg Pro Met Ser Ile Asn Phe Gly Asn Ser
 420 425 430
 Pro Leu Gly Gln Arg Trp Ser Glu Phe Leu Ser Arg Val Leu His Asp
 435 440 445
 Glu Thr Glu Lys His Val Ala Val Val Cys Asn Asn Pro Gln Leu Ile
 450 455 460
 Lys Lys Ser Phe Pro Ser His Ser Leu Ser Leu Leu Glu Asn Glu Leu
 465 470 475 480
 Glu Glu Ser Gly Tyr Ser Tyr Leu Asn Ile Val Ser Val Ser Gln Glu
 485 490 495
 Arg Thr Cys Val Lys Glu Arg Arg Ile Leu Ser Ser Asp Pro Ser Gly
 500 505 510
 Arg Ser Phe Thr Val Ile Leu Thr Asp Leu Pro Glu Gly Ser Ser Asp
 515 520 525
 Ile Arg Asn Leu Gln Leu Ala Ser Asp Arg Ile Leu Val Ser Ser Ala
 530 535 540
 Leu Asp Ala Ala Asp Ala Cys Ala Ser Glu Cys Lys Ile Leu Glu Tyr
 545 550 555 560
 Glu Asp Pro Glu Gln Glu Trp Ala Gln Gln Tyr Ala Ser Phe Tyr Arg
 565 570 575
 Asn Ile Asp Arg Ala Gly Asp Leu Gln Arg Gln Gly Ile Pro Gly Glu
 580 585 590
 Pro Leu Gly Val Ser Ala Ser Thr Arg Val Val Leu Glu Lys Asp Ile
 595 600 605

Val Phe Asn Leu Asn Ala Val Ile Gln Gln Ala Met Trp Lys Phe Lys
610 615 620
Lys Arg Asp Leu Phe Ala Val Glu Ser Gln Ala Leu Gly Asp Asp Met
625 630 635 640
Arg Arg Ala Leu Glu Gly Tyr Ile Gly Ser Ser Leu Leu Val Glu Gly
645 650 655
Thr Ile Gln Pro Gln Val Ala Cys Asn Val Asn Val Ser Phe Ala Thr
660 665 670
Leu Asp Glu Ala Val Cys Ala Ala Cys Asp Ser Ala Gln Asp Ala Pro
675 680 685
Ser Glu Glu Asn Asn Thr Asp Asp
690 695

<210> 465
<211> 430
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0463

<400> 465
Leu Ser Ser Pro Tyr Glu Lys Thr Glu Gln Leu Leu Gly Thr Pro Asn
1 5 10 15
Cys Arg Thr Pro Arg Val Asn Ile Ser Thr Val Gly Ile Pro Ile Asp
20 25 30
Glu Thr Ser Asn Ala Phe Val Asp Ser Met Met Lys Gln Gly Val Gly
35 40 45
Gln Asp Ala Lys Glu Leu Tyr Thr Phe Leu Ser Arg Gly Asn Glu His
50 55 60
Tyr Gln Pro Cys Leu Trp Phe Ser Leu Glu Glu Glu Leu Gly Phe Leu
65 70 75 80
Phe Asp Glu Lys Met Leu Cys Ala Pro Leu Ser Glu Asp His Tyr Cys
85 90 95
His Ser Tyr Leu Val Asp Leu Val Asp Gln His Leu Lys Asp Leu Ile
100 105 110
Leu Ser Met Phe Leu Asp Pro Gln Asn Ile Ser Ala Gly Glu Leu Leu
115 120 125
Lys Val Ser Ile Asn Val Gly Asp Ser Phe Ser Pro Leu Gln Gln Lys
130 135 140
Asp Phe Leu Ser Met Val Leu Arg Asp Glu Thr Gly Lys Asn Val Val
145 150 155 160
Val Val Phe Lys Gly Val Leu Ser Leu Pro Ala Thr Gln Val Cys Lys
165 170 175
Leu Val Glu Glu Leu Asn Ser Lys Asp Tyr Ser Tyr Leu Asn Ile Phe
180 185 190
Ser Cys His Gly Asp Ser Ser Pro Gln Leu Leu Phe Arg Lys Glu Leu
195 200 205
Glu Gly Thr Ser Gly Arg Tyr Phe Thr Val Ile Cys Ala Leu Tyr Leu
210 215 220
Gly Asp Thr Asp Met Arg Ser Leu Gln Leu Ala Ser Glu Arg Ile Met
225 230 235 240
Val Ser Arg Glu Phe Asp Leu Val Asp Ala Tyr Ala Ala Arg Cys Lys
245 250 255
Leu Leu Lys Ile Asp His Thr Asn Trp Arg Pro Gly Thr Phe Ser Arg
260 265 270
His Ala Asp Phe Ala Asp Ala Val Asp Val Ser Ala Gly Phe Asn Ser
275 280 285
Arg Glu Phe Lys Leu Ile Thr Gln Ala Asn Gln Gly Ile Leu Glu Ser
290 295 300

Gly Glu Leu Pro Leu Pro Ser Lys Thr Phe Trp Glu Gly Phe Leu Ala
 305 310 315 320
 Phe Cys Asp Arg Val Thr Val Thr Arg His Phe Ile Pro Met Leu Asp
 325 330 335
 Ala Ala Ile Lys Gln Ala Val Trp Thr His Lys His Pro Ser Leu Ile
 340 345 350
 Asp Lys Glu Cys Glu Ala Leu Asp Leu Lys Thr Gln Cys Leu Pro Ser
 355 360 365
 Ile Val Ser Tyr Leu Glu Tyr Val Thr Asn Ser His Glu Lys Thr Ser
 370 375 380
 Lys Gly Pro Phe Ile Gln Lys Glu Ile Ile Ala Asp Cys Ser Pro Leu
 385 390 395 400
 Lys Glu Ala Leu Phe Pro Gly Ser Asp Glu Asp Val Pro Ser Thr Ser
 405 410 415
 Glu Asp Pro Ser Asp Asp His Pro Ser Asp Leu Glu Asp Ser
 420 425 430

<210> 466
 <211> 186
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0464

<400> 466
 Ser Leu Glu Thr Arg Gly Arg Phe Thr Glu Ile Cys Leu Gln Leu Leu
 1 5 10 15
 Phe Phe Asp Ile Gln Ser Leu Lys Phe Leu Gln Leu Phe Ser Glu Gly
 20 25 30
 Thr Ala Leu Asn Leu Phe Arg Ile Phe Ala Pro Leu Arg Asn Arg Val
 35 40 45
 Thr Thr Glu Tyr Ser Arg Ala Arg Gln Pro Asp Leu His Arg Ile Ala
 50 55 60
 Ile Val Tyr Ile Gly Val Leu Asp Ser Glu Ser Ser Lys Ile Leu Glu
 65 70 75 80
 Arg Leu Ile Ser Tyr Met Ser Cys Ile Tyr Ser Glu Ser Gln Met Tyr
 85 90 95
 Leu Arg Phe Phe Met Gly Lys Asn Val Asn Gln Ser Ala Val Leu Ser
 100 105 110
 Lys Leu His Val Glu Asn Leu His Ile Arg Cys Gly Phe Phe Ser Glu
 115 120 125
 Asp Ala Val Pro Glu Ser Glu Pro Phe Asp Leu Ser Ile Tyr Val His
 130 135 140
 Thr Asp Arg Ser Cys Pro Leu Pro Thr Lys Lys Arg Ser Ser Ser Trp
 145 150 155 160
 Glu Leu Gln Thr Val Glu Leu Pro Glu Ser Ile Tyr Pro Gln Ser Glu
 165 170 175
 Phe Leu Leu Met Arg Pro Arg Met Leu Ser
 180 185

<210> 467
 <211> 136
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0465

<400> 467

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Leu Leu Glu Asn Asn Arg Phe Phe Leu Phe Phe Lys Val Lys Tyr Phe
 1          5          10          15
Leu Lys Asp Ser Phe Leu Met Ser Tyr Tyr Phe Ser Leu Trp Tyr Leu
          20          25          30
Lys Val Gln Gln His Phe Gln Ala Ala Phe Asp Phe Thr Arg Ser Leu
          35          40          45
Cys Ser Arg Ile Ser Asn Phe Ala Leu Gly Val Ile Ala Leu Leu Pro
          50          55          60
Ile Ile Gly Gln Leu Tyr Val Gly Leu Asp Trp Leu Leu Ser Arg Ile
65          70          75          80
Lys Lys Pro Glu Phe Pro Ser Asp Val Asp Gln Ile Val Arg Val Glu
          85          90          95
His Val Val Gly His Asp His Arg Ser Arg Val Glu Asp Ile Leu Lys
          100          105          110
Arg Gln Arg Leu Ser Leu Glu Pro Arg Asp Glu Gly Lys Val His Gly
          115          120          125
Asp Leu Pro Ser Ala Pro Phe Phe
130          135

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<210> 468

<211> 940

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0466

<400> 468

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Thr Ser Met Arg Phe Phe Cys Phe Gly Met Leu Leu Pro Phe Thr Phe
 1          5          10          15
Val Leu Ala Asn Glu Gly Leu Gln Leu Pro Leu Glu Thr Tyr Ile Thr
          20          25          30
Leu Ser Pro Glu Tyr Gln Ala Ala Pro Gln Val Gly Phe Thr His Asn
          35          40          45
Gln Asn Gln Asp Leu Ala Ile Val Gly Asn His Asn Asp Phe Ile Leu
          50          55          60
Asp Tyr Lys Tyr Tyr Arg Ser Asn Gly Gly Ala Leu Thr Cys Lys Asn
65          70          75          80
Leu Leu Ile Ser Glu Asn Ile Gly Asn Val Phe Phe Glu Lys Asn Val
          85          90          95
Cys Pro Asn Ser Gly Gly Ala Ile Tyr Ala Ala Gln Asn Cys Thr Ile
          100          105          110
Ser Lys Asn Gln Asn Tyr Ala Phe Thr Thr Asn Leu Val Ser Asp Asn
          115          120          125
Pro Thr Ala Thr Ala Gly Ser Leu Leu Gly Gly Ala Leu Phe Ala Ile
          130          135          140
Asn Cys Ser Ile Thr Asn Asn Leu Gly Gln Gly Thr Phe Val Asp Asn
145          150          155          160
Leu Ala Leu Asn Lys Gly Gly Ala Leu Tyr Thr Glu Thr Asn Leu Ser
          165          170          175
Ile Lys Asp Asn Lys Gly Pro Ile Ile Ile Lys Gln Asn Arg Ala Leu
          180          185          190
Asn Ser Asp Ser Leu Gly Gly Gly Ile Tyr Ser Gly Asn Ser Leu Asn
          195          200          205
Ile Glu Gly Asn Ser Gly Ala Ile Gln Ile Thr Ser Asn Ser Ser Gly
210          215          220
Ser Gly Gly Gly Ile Phe Ser Thr Gln Thr Leu Thr Ile Ser Ser Asn
225          230          235          240
Lys Lys Leu Ile Glu Ile Ser Glu Asn Ser Ala Phe Ala Asn Asn Tyr
          245          250          255

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Gly Ser Asn Phe Asn Pro Gly Gly Gly Gly Leu Thr Thr Thr Phe Cys
 260 265 270
 Thr Ile Leu Asn Asn Arg Glu Gly Val Leu Phe Asn Asn Asn Gln Ser
 275 280 285
 Gln Ser Asn Gly Gly Ala Ile His Ala Lys Ser Ile Ile Ile Lys Glu
 290 295 300
 Asn Gly Pro Val Tyr Phe Leu Asn Asn Thr Ala Thr Arg Gly Gly Ala
 305 310 315 320
 Leu Leu Asn Leu Ser Ala Gly Ser Gly Asn Gly Ser Phe Ile Leu Ser
 325 330 335
 Ala Asp Asn Gly Asp Ile Ile Phe Asn Asn Thr Ala Ser Lys His
 340 345 350
 Ala Leu Asn Pro Pro Tyr Arg Asn Ala Ile His Ser Thr Pro Asn Met
 355 360 365
 Asn Leu Gln Ile Gly Ala Arg Pro Gly Tyr Arg Val Leu Phe Tyr Asp
 370 375 380
 Pro Ile Glu His Glu Leu Pro Ser Ser Phe Pro Ile Leu Phe Asn Phe
 385 390 395 400
 Glu Thr Gly His Thr Gly Thr Val Leu Phe Ser Gly Glu His Val His
 405 410 415
 Gln Asn Phe Thr Asp Glu Met Asn Phe Phe Ser Tyr Leu Arg Asn Thr
 420 425 430
 Ser Glu Leu Arg Gln Gly Val Leu Ala Val Glu Asp Gly Ala Gly Leu
 435 440 445
 Ala Cys Tyr Lys Phe Phe Gln Arg Gly Gly Thr Leu Leu Gly Gln
 450 455 460
 Gly Ala Val Ile Thr Thr Ala Gly Thr Ile Pro Thr Pro Ser Ser Thr
 465 470 475 480
 Pro Thr Thr Val Gly Ser Thr Ile Thr Leu Asn His Ile Ala Ile Asp
 485 490 495
 Leu Pro Ser Ile Leu Ser Phe Gln Ala Gln Ala Pro Lys Ile Trp Ile
 500 505 510
 Tyr Pro Thr Lys Thr Gly Ser Thr Tyr Thr Glu Asp Ser Asn Pro Thr
 515 520 525
 Ile Thr Ile Ser Gly Thr Leu Thr Leu Arg Asn Ser Asn Asn Glu Asp
 530 535 540
 Pro Tyr Asp Ser Leu Asp Leu Ser His Ser Leu Glu Lys Val Pro Leu
 545 550 555 560
 Leu Tyr Ile Val Asp Val Ala Ala Gln Lys Ile Asn Ser Ser Gln Leu
 565 570 575
 Asp Leu Ser Thr Leu Asn Ser Gly Glu His Tyr Gly Tyr Gln Gly Ile
 580 585 590
 Trp Ser Thr Tyr Trp Val Glu Thr Thr Thr Ile Thr Asn Pro Thr Ser
 595 600 605
 Leu Leu Gly Ala Asn Thr Lys His Lys Leu Leu Tyr Ala Asn Trp Ser
 610 615 620
 Pro Leu Gly Tyr Arg Pro His Pro Glu Arg Arg Gly Glu Phe Ile Thr
 625 630 635 640
 Asn Ala Leu Trp Gln Ser Ala Tyr Thr Ala Leu Ala Gly Leu His Ser
 645 650 655
 Leu Ser Ser Trp Asp Glu Glu Lys Gly His Ala Ala Ser Leu Gln Gly
 660 665 670
 Ile Gly Leu Leu Val His Gln Lys Asp Lys Asn Gly Phe Lys Gly Phe
 675 680 685
 Arg Ser His Met Thr Gly Tyr Ser Ala Thr Thr Glu Ala Thr Ser Ser
 690 695 700
 Gln Ser Pro Asn Phe Ser Leu Gly Phe Ala Gln Phe Phe Ser Lys Ala
 705 710 715 720
 Lys Glu His Glu Ser Gln Asn Ser Thr Ser Ser His His Tyr Phe Ser
 725 730 735

Gly Met Cys Ile Glu Asn Thr Leu Phe Lys Glu Trp Ile Arg Leu Ser
 740 745 750
 Val Ser Leu Ala Tyr Met Phe Thr Ser Glu His Thr His Thr Met Tyr
 755 760 765
 Gln Gly Leu Leu Glu Gly Asn Ser Gln Gly Ser Phe His Asn His Thr
 770 775 780
 Leu Ala Gly Ala Leu Ser Cys Val Phe Leu Pro Gln Pro His Gly Glu
 785 790 795 800
 Ser Leu Gln Ile Tyr Pro Phe Ile Thr Ala Leu Ala Ile Arg Gly Asn
 805 810 815
 Leu Ala Ala Phe Gln Glu Ser Gly Asp His Ala Arg Glu Phe Ser Leu
 820 825 830
 His Arg Pro Leu Thr Asp Val Ser Leu Pro Val Gly Ile Arg Ala Ser
 835 840 845
 Trp Lys Asn His His Arg Val Pro Leu Val Trp Leu Thr Glu Ile Ser
 850 855 860
 Tyr Arg Ser Thr Leu Tyr Arg Gln Asp Pro Glu Leu His Ser Lys Leu
 865 870 875 880
 Leu Ile Ser Gln Gly Thr Trp Thr Thr Gln Ala Thr Pro Val Thr Tyr
 885 890 895
 Asn Ala Leu Gly Ile Lys Val Lys Asn Thr Met Gln Val Phe Pro Lys
 900 905 910
 Val Thr Leu Ser Leu Asp Tyr Ser Ala Asp Ile Ser Ser Ser Thr Leu
 915 920 925
 Ser His Tyr Leu Asn Val Ala Ser Arg Met Arg Phe
 930 935 940

<210> 469

<211> 969

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0467

<400> 469

Asn Glu Ile Leu Thr Ile Ser Asp Gln Asn Arg Lys Ile Lys Glu Pro
 1 5 10 15
 Leu Val Ser Lys Thr Pro Pro Lys Phe Leu Phe Tyr Leu Gly Asn Phe
 20 25 30
 Thr Ala Cys Met Phe Gly Met Thr Pro Ala Val Tyr Ser Leu Gln Thr
 35 40 45
 Asp Ser Leu Glu Lys Phe Ala Leu Glu Arg Asp Glu Glu Phe Arg Thr
 50 55 60
 Ser Phe Pro Leu Leu Asp Ser Leu Ser Thr Leu Thr Gly Phe Ser Pro
 65 70 75 80
 Ile Thr Thr Phe Val Gly Asn Arg His Asn Ser Ser Gln Asp Ile Val
 85 90 95
 Leu Ser Asn Tyr Lys Ser Ile Asp Asn Ile Leu Leu Leu Trp Thr Ser
 100 105 110
 Ala Gly Gly Ala Val Ser Cys Asn Asn Phe Leu Leu Ser Asn Val Glu
 115 120 125
 Asp His Ala Phe Phe Ser Lys Asn Leu Ala Ile Gly Thr Gly Gly Ala
 130 135 140
 Ile Ala Cys Gln Gly Ala Cys Thr Ile Thr Lys Asn Arg Gly Pro Leu
 145 150 155 160
 Ile Phe Phe Ser Asn Arg Gly Leu Asn Asn Ala Ser Thr Gly Gly Glu
 165 170 175
 Thr Arg Gly Gly Ala Ile Ala Cys Asn Gly Asp Phe Thr Ile Ser Gln
 180 185 190

Asn Gln Gly Thr Phe Tyr Phe Val Asn Asn Ser Val Asn Asn Trp Gly
 195 200 205
 Gly Ala Leu Ser Thr Asn Gly His Cys Arg Ile Gln Ser Asn Arg Ala
 210 215 220
 Pro Leu Leu Phe Phe Asn Asn Thr Ala Pro Ser Gly Gly Gly Ala Leu
 225 230 235 240
 Arg Ser Glu Asn Thr Thr Ile Ser Asp Asn Thr Arg Pro Ile Tyr Phe
 245 250 255
 Lys Asn Asn Cys Gly Asn Asn Gly Gly Ala Ile Gln Thr Ser Val Thr
 260 265 270
 Val Ala Ile Lys Asn Asn Ser Gly Ser Val Ile Phe Asn Asn Asn Thr
 275 280 285
 Ala Leu Ser Gly Ser Ile Asn Ser Gly Asn Gly Ser Gly Gly Ala Ile
 290 295 300
 Tyr Thr Thr Asn Leu Ser Ile Asp Asp Asn Pro Gly Thr Ile Leu Phe
 305 310 315 320
 Asn Asn Asn Tyr Cys Ile Arg Asp Gly Gly Ala Ile Cys Thr Gln Phe
 325 330 335
 Leu Thr Ile Lys Asn Ser Gly His Val Tyr Phe Thr Asn Asn Gln Gly
 340 345 350
 Asn Trp Gly Gly Ala Leu Met Leu Leu Gln Asp Ser Thr Cys Leu Leu
 355 360 365
 Phe Ala Glu Gln Gly Asn Ile Ala Phe Gln Asn Asn Glu Val Phe Leu
 370 375 380
 Thr Thr Phe Gly Arg Tyr Asn Ala Ile His Cys Thr Pro Asn Ser Asn
 385 390 395 400
 Leu Gln Leu Gly Ala Asn Lys Gly Tyr Thr Thr Ala Phe Phe Asp Pro
 405 410 415
 Ile Glu His Gln His Pro Thr Thr Asn Pro Leu Ile Phe Asn Pro Asn
 420 425 430
 Ala Asn His Gln Gly Thr Ile Leu Phe Ser Ser Ala Tyr Ile Pro Glu
 435 440 445
 Ala Ser Asp Tyr Glu Asn Asn Phe Ile Ser Ser Ser Lys Asn Thr Ser
 450 455 460
 Glu Leu Arg Asn Gly Val Leu Ser Ile Glu Asp Arg Ala Gly Trp Gln
 465 470 475 480
 Phe Tyr Lys Phe Thr Gln Lys Gly Gly Ile Leu Lys Leu Gly His Ala
 485 490 495
 Ala Ser Ile Ala Thr Thr Ala Asn Ser Glu Thr Pro Ser Thr Ser Val
 500 505 510
 Gly Ser Gln Val Ile Ile Asn Asn Leu Ala Ile Asn Leu Pro Ser Ile
 515 520 525
 Leu Ala Lys Gly Lys Ala Pro Thr Leu Trp Ile Arg Pro Leu Gln Ser
 530 535 540
 Ser Ala Pro Phe Thr Glu Asp Asn Asn Pro Thr Ile Thr Leu Ser Gly
 545 550 555 560
 Pro Leu Thr Leu Leu Asn Glu Glu Asn Arg Asp Pro Tyr Asp Ser Ile
 565 570 575
 Asp Leu Ser Glu Pro Leu Gln Asn Ile His Leu Leu Ser Leu Ser Asp
 580 585 590
 Val Thr Ala Arg His Ile Asn Thr Asp Asn Phe His Pro Glu Ser Leu
 595 600 605
 Asn Ala Thr Glu His Tyr Gly Tyr Gln Gly Ile Trp Ser Pro Tyr Trp
 610 615 620
 Val Glu Thr Ile Thr Thr Asn Asn Ala Ser Ile Glu Thr Ala Asn
 625 630 635 640
 Thr Leu Tyr Arg Ala Leu Tyr Ala Asn Trp Thr Pro Leu Gly Tyr Lys
 645 650 655
 Val Asn Pro Glu Tyr Gln Gly Asp Leu Ala Thr Thr Pro Leu Trp Gln
 660 665 670

Ser Phe His Thr Met Phe Ser Leu Leu Arg Ser Tyr Asn Arg Thr Gly
 675 680 685
 Asp Ser Asp Ile Glu Arg Pro Phe Leu Glu Ile Gln Gly Ile Ala Asp
 690 695 700
 Gly Leu Phe Val His Gln Asn Ser Ile Pro Gly Ala Pro Gly Phe Arg
 705 710 715 720
 Ile Gln Ser Thr Gly Tyr Ser Leu Gln Ala Ser Ser Glu Thr Ser Leu
 725 730 735
 His Gln Lys Ile Ser Leu Gly Phe Ala Gln Phe Phe Thr Arg Thr Lys
 740 745 750
 Glu Ile Gly Ser Ser Asn Asn Val Ser Ala His Asn Thr Val Ser Ser
 755 760 765
 Leu Tyr Val Glu Leu Pro Trp Phe Gln Glu Ala Phe Ala Thr Ser Thr
 770 775 780
 Val Leu Ala Tyr Gly Tyr Gly Asp His His Leu His Ser Leu His Pro
 785 790 795 800
 Ser His Gln Glu Gln Ala Glu Gly Thr Cys Tyr Ser His Thr Leu Ala
 805 810 815
 Ala Ala Ile Gly Cys Ser Phe Pro Trp Gln Gln Lys Ser Tyr Leu His
 820 825 830
 Leu Ser Pro Phe Val Gln Ala Ile Ala Ile Arg Ser His Gln Thr Ala
 835 840 845
 Phe Glu Glu Ile Gly Asp Asn Pro Arg Lys Phe Val Ser Gln Lys Pro
 850 855 860
 Phe Tyr Asn Leu Thr Leu Pro Leu Gly Ile Gln Gly Lys Trp Gln Ser
 865 870 875 880
 Lys Phe His Val Pro Thr Glu Trp Thr Leu Glu Leu Ser Tyr Gln Pro
 885 890 895
 Val Leu Tyr Gln Gln Asn Pro Gln Ile Gly Val Thr Leu Leu Ala Ser
 900 905 910
 Gly Gly Ser Trp Asp Ile Leu Gly His Asn Tyr Val Arg Asn Ala Leu
 915 920 925
 Gly Tyr Lys Val His Asn Gln Thr Ala Leu Phe Arg Ser Leu Asp Leu
 930 935 940
 Phe Leu Asp Tyr Gln Gly Ser Val Ser Ser Ser Thr Ser Thr His His
 945 950 955 960
 Leu Gln Ala Gly Ser Thr Leu Lys Phe
 965

<210> 470
 <211> 275
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0468

<400> 470
 Ile Tyr Lys Leu Leu Asp Asn Lys Leu Met Ile Phe Tyr Asp Lys Leu
 1 5 10 15
 Tyr Phe His Ile Lys Val Trp Met Phe Met Arg Pro Ile Cys Leu Ser
 20 25 30
 Ile Leu Ser Thr Ala Leu Cys Cys Ser Leu Ser Gly Asn Glu Val Pro
 35 40 45
 Asn Leu Ala Ser Cys Gln Met Ser Arg Lys Asp Ile Ser Ala Phe His
 50 55 60
 Thr Ser Pro Ser Phe Arg Leu Asn Val Thr Pro Glu Pro Leu Val Ser
 65 70 75 80
 Ser Phe Arg Pro Ser Asn Leu Leu Asn Gly Phe Gly His Asp Ile Thr
 85 90 95

Gln Asp Ile Thr Ile Thr Gly Asn Ser Ile Asn Ser Val Ile Asp Tyr
 100 105 110
 Asn Tyr His Tyr Glu Asp Gly Gly Ile Leu Ala Cys Lys Asn Leu Phe
 115 120 125
 Ile Ser Glu Asn Lys Gly Asn Leu Ser Phe Glu Arg Asn Ser Ser His
 130 135 140
 Ser Ser Gly Gly Ala Leu Tyr Ser Val Arg Glu Cys Trp Ile Ser Lys
 145 150 155 160
 Asn Gln Asn Tyr Ser Phe Ile Ser Asn Ala Ala Ser Leu Ala Thr Thr
 165 170 175
 Thr Thr Ser Gly Phe Gly Gly Ala Ile His Ala Leu Asp Ser Tyr Ile
 180 185 190
 Thr Asn Asn Leu Gly Glu Gly Gln Phe Leu Asp Asn Val Ser Lys Asn
 195 200 205
 Arg Gly Gly Ala Ile Tyr Val Gly Val Ser Leu Ser Ile Thr Asp Asn
 210 215 220
 Leu Gly Pro Ile Val Ile Lys Lys Asn Gln Thr Leu Glu Asp Ser Ser
 225 230 235 240
 Phe Gly Gly Gly Ile Phe Cys Arg Ala Val Asn Ile Glu Arg Asn Tyr
 245 250 255
 Gln Asn Ile Gln Ile Asn Asp Asn Ala Ser Gly Gln Gly Val Val Tyr
 260 265 270
 Phe Leu Pro
 275

<210> 471
 <211> 354
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0469

<400> 471
 Cys Phe Arg Thr Arg Gly Gly Ile Phe Ser Ala Leu Gly Val Ile Ile
 1 5 10 15
 Ser Ser Asn Lys Glu Ile Ile Glu Ile Ser Asn His Ser Ala Ser Ser
 20 25 30
 Ile Asn Thr Ala Ser Gly Lys Leu Tyr Pro Gly Gly Gly Ile Met
 35 40 45
 Cys Thr Ser Leu Val Ile Glu Asn Asn Pro Lys Gly Leu Ile Phe Asn
 50 55 60
 Asn Lys Thr Ala Ala Leu Ser Gly Gly Ala Ile His Thr Arg Ser Phe
 65 70 75 80
 Ile Phe Gln Asn Asn Gly Pro Thr Ala Phe Ile Asn Asn Ser Ala Thr
 85 90 95
 Ser Gly Gly Ala Leu Ile Asn Leu Ser Gly Ile Gly Ser Thr Pro Gln
 100 105 110
 Asn Phe Phe Leu Ser Ala Asp Tyr Gly Asp Ile Leu Phe Asn Asn Asn
 115 120 125
 Thr Ile Thr Ser Ser Ser Pro Gln Pro Gly Tyr Arg Asn Ala Leu Tyr
 130 135 140
 Ala Ala Pro Gly Ile Asn Leu Lys Leu Gly Ala Arg Gln Gly Tyr Lys
 145 150 155 160
 Ile Leu Phe Tyr Asp Pro Ile Asp His Asp Gln Thr Thr Thr Asp Pro
 165 170 175
 Ile Val Phe Asn Tyr Glu Pro His His Leu Gly Thr Val Leu Phe Ser
 180 185 190
 Gly Ile Asn Val Asp Ser Asn Ala Thr Asn Pro Leu Asn Phe Leu Ser
 195 200 205

Lys Phe Ser Asn Ser Ser Arg Leu Glu Arg Gly Val Leu Ala Ile Glu
 210 215 220
 Asp Arg Ala Ala Ile Ser Cys Lys Thr Leu Ser Gln Thr Gly Gly Ile
 225 230 235 240
 Leu Arg Leu Gly Asn Ala Ala Leu Ile Arg Thr Lys Gly Pro Gly Ser
 245 250 255
 Ser Ile Asn Phe Asn Ala Ile Ala Ile Asn Leu Pro Ser Ile Leu Gln
 260 265 270
 Ser Glu Ala Ser Ala Pro Lys Phe Trp Ile Tyr Pro Thr Leu Thr Gly
 275 280 285
 Ser Thr Tyr Ser Glu Asp Thr Ser Ser Thr Ile Thr Leu Ser Gly Pro
 290 295 300
 Leu Thr Phe Leu Asn Asp Glu Asn Glu Asn Pro Tyr Asp Ser Leu Asp
 305 310 315 320
 Leu Ser Glu Pro Arg Lys Asp Ile Pro Pro Pro Leu Pro Pro Arg Cys
 325 330 335
 Asp Cys Lys Lys Asn Arg Tyr Phe Glu Ser His Cys Arg Ser His Glu
 340 345 350
 Leu Arg

<210> 472
 <211> 392
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0470

<400> 472
 Ile Ser Leu Asn Leu Glu Arg Ile Ser Pro Leu Leu Tyr Leu Leu Asp
 1 5 10 15
 Val Thr Ala Lys Lys Ile Asp Thr Ser Asn Leu Ile Val Glu Ala Met
 20 25 30
 Asn Leu Asp Glu His Tyr Gly Tyr Gln Gly Ile Trp Ser Pro Tyr Trp
 35 40 45
 Met Glu Thr Thr Thr Thr Thr Ser Ser Thr Val Pro Glu Gln Thr Asn
 50 55 60
 Thr Asn His Arg Gln Leu Tyr Val Asp Trp Thr Pro Val Gly Tyr Arg
 65 70 75 80
 Pro Asn Pro Glu Arg His Gly Glu Phe Ile Ala Asn Thr Leu Trp Gln
 85 90 95
 Ser Ala Tyr Asn Ala Leu Leu Gly Ile Arg Ile Leu Pro Pro Gln Asn
 100 105 110
 Leu Lys Glu His Asp Leu Glu Ala Ser Leu Gln Gly Leu Gly Leu Leu
 115 120 125
 Ile Asn Gln His Asn Arg Glu Gly Arg Lys Gly Phe Arg Asn His Thr
 130 135 140
 Thr Gly Tyr Ala Ala Thr Thr Ser Ala Lys Thr Ala Ala Arg His Ser
 145 150 155 160
 Phe Ser Leu Gly Phe Ala Gln Met Phe Ser Lys Thr Arg Glu Arg Gln
 165 170 175
 Ser Pro Ser Thr Thr Ser Ser His Asn Tyr Phe Ala Gly Leu Arg Phe
 180 185 190
 Asp Ser Leu Leu Phe Arg Asp Phe Ile Ser Thr Gly Leu Ser Leu Gly
 195 200 205
 Tyr Ser Tyr Gly Asp His His Met Leu Cys His Tyr Thr Glu Ile Leu
 210 215 220
 Lys Gly Ser Ser Lys Ala Phe Phe Asn Asn His Thr Leu Val Ala Ser
 225 230 235 240

Leu Asp Cys Thr Phe Leu Pro Ala Arg Ile Thr Arg Thr Leu Glu Leu
 245 250 255
 Gln Pro Phe Ile Ser Ala Ile Ala Leu Arg Cys Ser Gln Ala Ser Phe
 260 265 270
 Gln Glu Thr Gly Asp His Ile Arg Lys Phe His Pro Lys His Pro Leu
 275 280 285
 Thr Asp Leu Ser Ser Pro Ile Gly Phe Arg Ser Glu Trp Lys Thr Ser
 290 295 300
 His His Ile Pro Met Leu Trp Thr Thr Glu Ile Ser Tyr Val Pro Thr
 305 310 315 320
 Leu Tyr Arg Lys Asn Pro Glu Met Phe Thr Thr Leu Leu Ile Ser Asn
 325 330 335
 Gly Thr Trp Thr Thr Gln Ala Thr Pro Val Ser Tyr Asn Ser Val Ala
 340 345 350
 Ala Lys Ile Lys Asn Thr Ser Gln Leu Phe Ser Arg Val Thr Leu Ser
 355 360 365
 Leu Asp Tyr Ser Ala Gln Val Ser Ser Ser Thr Val Gly Gln Tyr Leu
 370 375 380
 Lys Ala Glu Ser His Cys Thr Phe
 385 390

<210> 473
 <211> 947
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0471

<400> 473
 Thr Val Gln Asn Asn Arg Ser Leu Ser Lys Ser Ser Phe Phe Val Gly
 1 5 10 15
 Ala Leu Ile Leu Gly Lys Thr Thr Ile Leu Leu Asn Ala Thr Pro Leu
 20 25 30
 Ser Asp Tyr Phe Asp Asn Gln Ala Asn Gln Leu Thr Thr Leu Phe Pro
 35 40 45
 Leu Ile Asp Thr Leu Thr Asn Met Thr Pro Tyr Ser His Arg Ala Thr
 50 55 60
 Leu Phe Gly Val Arg Asp Asp Thr Asn Gln Asp Ile Val Leu Asp His
 65 70 75 80
 Gln Asn Ser Ile Glu Ser Trp Phe Glu Asn Phe Ser Gln Asp Gly Gly
 85 90 95
 Ala Leu Ser Cys Lys Ser Leu Ala Ile Thr Asn Thr Lys Asn Gln Ile
 100 105 110
 Leu Phe Leu Asn Ser Phe Ala Ile Lys Arg Ala Gly Ala Met Tyr Val
 115 120 125
 Asn Gly Asn Phe Asp Leu Ser Glu Asn His Gly Ser Ile Ile Phe Ser
 130 135 140
 Gly Asn Leu Ser Phe Pro Asn Ala Ser Asn Phe Ala Asp Thr Cys Thr
 145 150 155 160
 Gly Gly Ala Val Leu Cys Ser Lys Asn Val Thr Ile Ser Lys Asn Gln
 165 170 175
 Gly Thr Ala Tyr Phe Ile Asn Asn Lys Ala Lys Ser Ser Gly Gly Ala
 180 185 190
 Ile Gln Ala Ala Ile Ile Asn Ile Lys Asp Asn Thr Gly Pro Cys Leu
 195 200 205
 Phe Phe Asn Asn Ala Ala Gly Gly Thr Ala Gly Gly Ala Leu Phe Ala
 210 215 220
 Asn Ala Cys Arg Ile Glu Asn Asn Ser Gln Pro Ile Tyr Phe Leu Asn
 225 230 235 240

Phe Ser Gln Leu Phe Ser Asn Leu Tyr Glu Ser His Ser Asp Asn Ser
 725 730 735
 Val Ala Ser His Thr Thr Thr Val Ala Leu Gln Ile Asn Asn Pro Trp
 740 745 750
 Leu Gln Glu Arg Phe Ser Thr Ser Ala Ser Leu Ala Tyr Ser Tyr Ser
 755 760 765
 Asn His His Ile Lys Ala Ser Gly Tyr Ser Gly Lys Ile Gln Thr Glu
 770 775 780
 Gly Lys Cys Tyr Ser Thr Thr Leu Gly Ala Ala Leu Ser Cys Ser Leu
 785 790 795 800
 Ser Leu Gln Trp Arg Ser Arg Pro Leu His Phe Thr Pro Phe Ile Gln
 805 810 815
 Ala Ile Ala Val Arg Ser Asn Gln Thr Ala Phe Gln Glu Ser Gly Asp
 820 825 830
 Lys Ala Arg Lys Phe Ser Val His Lys Pro Leu Tyr Asn Leu Thr Val
 835 840 845
 Pro Leu Gly Ile Gln Ser Ala Trp Glu Ser Lys Phe Arg Leu Pro Thr
 850 855 860
 Tyr Trp Asn Ile Glu Leu Ala Tyr Gln Pro Val Leu Tyr Gln Gln Asn
 865 870 875 880
 Pro Glu Ile Asn Val Ser Leu Glu Ser Ser Gly Ser Ser Trp Leu Leu
 885 890 895
 Ser Gly Thr Thr Leu Ala Arg Asn Ala Ile Ala Phe Lys Gly Arg Asn
 900 905 910
 Gln Ile Phe Ile Phe Pro Lys Leu Ser Val Phe Leu Asp Tyr Gln Gly
 915 920 925
 Ser Val Ser Ser Ser Thr Thr His Tyr Leu His Ala Gly Thr Thr
 930 935 940
 Phe Lys Phe
 945

<210> 474
 <211> 778
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0472

<400> 474
 Glu Val Phe Met Ala Ser Gly Ile Gly Gly Ser Ser Gly Leu Gly Lys
 1 5 10 15
 Ile Pro Pro Lys Asp Asn Gly Asp Arg Ser Arg Ser Pro Ser Pro Lys
 20 25 30
 Gly Glu Leu Gly Ser His Glu Ile Ser Leu Pro Pro Gln Glu His Gly
 35 40 45
 Glu Glu Gly Ala Ser Gly Ser Ser His Ile His Ser Ser Ser Ser Phe
 50 55 60
 Leu Pro Glu Asp Gln Glu Ser Gln Ser Ser Ser Ala Ala Ser Ser
 65 70 75 80
 Pro Gly Phe Phe Ser Arg Val Arg Ser Gly Val Asp Arg Ala Leu Lys
 85 90 95
 Ser Phe Gly Asn Phe Phe Ser Ala Glu Ser Thr Ser Gln Ala Arg Glu
 100 105 110
 Thr Arg Gln Ala Phe Val Arg Leu Ser Lys Thr Ile Thr Ala Asp Glu
 115 120 125
 Arg Arg Asp Val Asp Ser Ser Ser Ala Ala Ala Thr Glu Ala Arg Val
 130 135 140
 Ala Glu Asp Ala Ser Val Ser Gly Glu Asn Pro Ser Gln Gly Val Pro
 145 150 155 160

Glu	Thr	Ser	Ser	Gly	Pro	Glu	Pro	Gln	Arg	Leu	Phe	Ser	Leu	Pro	Ser		
				165					170					175			
Val	Lys	Lys	Gln	Ser	Gly	Leu	Gly	Arg	Leu	Val	Gln	Thr	Val	Arg	Asp		
			180					185					190				
Arg	Ile	Val	Leu	Pro	Ser	Gly	Ala	Pro	Pro	Thr	Asp	Ser	Glu	Pro	Leu		
		195				200						205					
Ser	Leu	Tyr	Glu	Leu	Asn	Leu	Arg	Leu	Ser	Ser	Leu	Arg	Gln	Glu	Leu		
	210				215						220						
Ser	Asp	Ile	Gln	Ser	Asn	Asp	Gln	Leu	Thr	Pro	Glu	Glu	Lys	Ala	Glu		
225					230					235					240		
Ala	Thr	Val	Thr	Ile	Gln	Gln	Leu	Ile	Gln	Ile	Thr	Glu	Phe	Gln	Cys		
			245					250						255			
Gly	Tyr	Met	Glu	Ala	Thr	Gln	Ser	Ser	Val	Ser	Leu	Ala	Glu	Ala	Arg		
		260						265					270				
Phe	Lys	Gly	Val	Glu	Thr	Ser	Asp	Glu	Ile	Asn	Ser	Leu	Cys	Ser	Glu		
	275						280					285					
Leu	Thr	Asp	Pro	Glu	Leu	Gln	Glu	Leu	Met	Ser	Asp	Gly	Asp	Ser	Leu		
	290					295					300						
Gln	Asn	Leu	Leu	Asp	Glu	Thr	Ala	Asp	Asp	Leu	Glu	Ala	Ala	Leu	Ser		
305					310					315					320		
His	Thr	Arg	Leu	Ser	Phe	Ser	Leu	Asp	Asp	Asn	Pro	Thr	Pro	Ile	Asp		
			325					330						335			
Asn	Asn	Pro	Thr	Leu	Ile	Ser	Gln	Glu	Glu	Pro	Ile	Tyr	Glu	Glu	Ile		
		340						345					350				
Gly	Gly	Ala	Ala	Asp	Pro	Gln	Arg	Thr	Arg	Glu	Asn	Trp	Ser	Thr	Arg		
	355					360						365					
Leu	Trp	Asn	Gln	Ile	Arg	Glu	Ala	Leu	Val	Ser	Leu	Leu	Gly	Met	Ile		
	370					375					380						
Leu	Ser	Ile	Leu	Gly	Ser	Ile	Leu	His	Arg	Leu	Arg	Ile	Ala	Arg	His		
385					390					395					400		
Ala	Ala	Ala	Glu	Ala	Val	Gly	Arg	Cys	Cys	Thr	Cys	Arg	Gly	Glu	Glu		
			405					410					415				
Cys	Thr	Ser	Ser	Glu	Glu	Asp	Ser	Met	Ser	Val	Gly	Ser	Pro	Ser	Glu		
		420						425					430				
Ile	Asp	Glu	Thr	Glu	Arg	Thr	Gly	Ser	Pro	His	Asp	Val	Pro	Arg	Arg		
	435						440					445					
Asn	Gly	Ser	Pro	Arg	Glu	Asp	Ser	Pro	Leu	Met	Asn	Ala	Leu	Val	Gly		
	450					455					460						
Trp	Ala	His	Lys	His	Gly	Ala	Lys	Thr	Lys	Glu	Ser	Ser	Glu	Ser	Ser		
465					470					475					480		
Thr	Pro	Glu	Ile	Ser	Ile	Ser	Ala	Pro	Ile	Val	Arg	Gly	Trp	Ser	Gln		
			485						490					495			
Asp	Ser	Ser	Val	Ser	Phe	Ile	Val	Met	Glu	Asp	Asp	His	Ile	Phe	Tyr		
		500						505					510				
Asp	Val	Pro	Arg	Arg	Lys	Asp	Gly	Ile	Tyr	Asp	Val	Pro	Ser	Ser	Pro		
	515						520					525					
Arg	Trp	Ser	Pro	Ala	Arg	Glu	Leu	Glu	Glu	Asp	Val	Phe	Gly	Asp	Tyr		
	530					535						540					
Glu	Val	Pro	Ile	Thr	Ser	Ala	Glu	Pro	Ser	Lys	Asp	Lys	Asn	Ile	Tyr		
545					550					555					560		
Met	Thr	Pro	Arg	Leu	Ala	Thr	Pro	Ala	Ile	Tyr	Asp	Leu	Pro	Ser	Arg		
			565						570					575			
Pro	Gly	Ser	Ser	Gly	Ser	Ser	Arg	Ser	Pro	Ser	Ser	Asp	Arg	Val	Arg		
		580						585					590				
Ser	Ser	Ser	Pro	Asn	Arg	Arg	Gly	Val	Pro	Leu	Pro	Pro	Val	Pro	Ser		
	595						600					605					
Pro	Ala	Met	Ser	Glu	Glu	Gly	Ser	Ile	Tyr	Glu	Asp	Met	Ser	Gly	Ala		
	610					615					620						
Ser	Gly	Ala	Gly	Glu	Ser	Asp	Tyr	Glu	Asp	Met	Ser	Arg	Ser	Pro	Ser		
625					630					635					640		

Pro Arg Gly Asp Leu Asp Glu Pro Ile Tyr Ala Asn Thr Pro Glu Asp
 645 650 655
 Asn Pro Phe Thr Gln Arg Asn Ile Asp Arg Ile Leu Gln Glu Arg Ser
 660 665 670
 Gly Gly Ala Ser Ala Ser Pro Val Glu Pro Ile Tyr Asp Glu Ile Pro
 675 680 685
 Trp Ile His Gly Arg Pro Pro Ala Thr Leu Pro Arg Pro Glu Asn Thr
 690 695 700
 Leu Thr Asn Val Ser Leu Arg Val Ser Pro Gly Phe Gly Pro Glu Val
 705 710 715 720
 Arg Ala Ala Leu Leu Ser Glu Ser Val Ser Ala Val Met Val Glu Ala
 725 730 735
 Glu Ser Ile Val Pro Pro Thr Glu Pro Gly Asp Gly Glu Ser Glu Tyr
 740 745 750
 Leu Glu Pro Leu Gly Gly Leu Val Ala Thr Thr Lys Ile Leu Leu Gln
 755 760 765
 Lys Gly Trp Pro Arg Gly Glu Ser Asn Ala
 770 775

<210> 475
 <211> 511
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0473

<400> 475
 Gly Ser Ile Met Ala Val Gly Gly Val Gly Gly Ser Arg Ser Pro Ser
 1 5 10 15
 Pro Ile Pro Pro Asn Arg Arg Asn Ser Glu Asp Gly Lys Val Ser Pro
 20 25 30
 Lys Asp Asn Leu Gly Glu His Thr Val Ser Ser Ser Asp Ser Ser Leu
 35 40 45
 Ala Ser Gln Gly Pro Thr Ile Glu Glu Arg Lys Ala Gln Leu Gly Gly
 50 55 60
 Thr Asp Lys Ile Pro Leu Pro Ser Val Lys Glu Pro Gly Asp Ser Gln
 65 70 75 80
 Thr Ser Gly Arg Ser Gly Val Leu Gln Arg Ile Trp Lys Gly Val Lys
 85 90 95
 Gly Val Phe Lys Lys Thr Pro Gln Ala Arg Pro Glu Val Ser Ser Pro
 100 105 110
 Arg Leu Pro Ser His Val Gln His Gly Gln Arg Leu Pro Gly Leu Glu
 115 120 125
 Gly Phe Arg Asp Arg Ile Gln Lys Arg Ser Glu Asn Pro Glu Ala Asp
 130 135 140
 Leu Gly Lys Met Lys Arg Ser Tyr Ser Asp Gly Asp Leu Asp Arg Val
 145 150 155 160
 Gly His Asp Ser Asn Glu Asp Ser Thr Glu Asp Ser Arg Ser Glu Gly
 165 170 175
 Gly Glu Pro Ser Ser Lys Ser Ser Ser Phe Leu Ser Gly Val Arg Gly
 180 185 190
 Ala Val Ser Lys Val His Gly Ala Leu Gly Asp Ile Lys Gly Lys Phe
 195 200 205
 Gln Arg Ser Ala Ser Glu Asp Asp Leu Thr Thr Gln Gly Glu Asp Ser
 210 215 220
 Ala Gly Asp Thr Val Lys Glu Arg Arg Ser Glu Glu Ala Glu Ala Ser
 225 230 235 240
 Ser Lys Ser Ser Ser Phe Leu Ser Gly Val Arg Gly Ala Thr Ser Thr
 245 250 255

Val Gln Gly Ala Leu Gly Asp Ala Lys Glu Lys Val Ser Ala Phe Gly
 260 265 270
 Glu Gln Ala Ala Gly Ala Ile Arg Ser Ala Pro Gly Asn Ile Arg Thr
 275 280 285
 Arg Phe Gln Arg Ser Ser Ser Glu Gly Asp Leu Ser Asn Val Asn Lys
 290 295 300
 Ala Ala Lys His Leu Arg Lys Ala Leu Glu Asn Leu Glu Lys Val Ala
 305 310 315 320
 Pro Glu Gln Val Ser Pro Glu Val Ala Ser Arg Val Gln Ser Leu Leu
 325 330 335
 Ala Arg Met Glu Gln Leu Thr His Gln Glu Pro Pro Thr Val Glu Asp
 340 345 350
 Leu Ile Thr Phe Val Glu Ser Asn Val Gly Ser Asp Ser Val Glu Tyr
 355 360 365
 Ala Ser Ile Val Pro Gln Asp Gly Ser Gln Ala Pro Ala Glu Thr Ala
 370 375 380
 Glu Ala Pro Glu Thr Gly Gly Val Glu Gly Ser Ala Ala Gln Gly Ala
 385 390 395 400
 Trp Lys Ala Leu Arg Asp Phe Val Val Ser Ile Phe Gln Ala Val Ala
 405 410 415
 Ser Phe Phe Arg Ala Ile Ala Ser Arg Leu Ser Ser Ala Arg Arg Glu
 420 425 430
 Ser Ala Val Asp Asp Leu Ala Ser Glu Ser Asn Thr Gln Trp Phe Val
 435 440 445
 Glu Gln Glu Gly Val Ser Asn Pro Ser Ala Ala Pro Ser Leu Ser Phe
 450 455 460
 Ala Glu Glu Ile Ala Arg Arg Ala Ala Glu Met Ser Asn Arg Asn Ala
 465 470 475 480
 Gln Ser Leu Glu Lys Leu Glu Ser Gly Asn Val Thr Asp Pro Val Ile
 485 490 495
 Gln Gln Gly Leu Gly Leu Ala Arg Ser Phe Ala Pro Glu Gly Gln
 500 505 510

<210> 476

<211> 598

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0474

<400> 476

Leu Lys Ile Ile Ile Ser Ile Ser Phe Met Ser Thr Ser Pro Ile Ser
 1 5 10 15
 Asn Asp Pro Arg Tyr Leu Ser Leu Ser Asn Ala Thr Glu Lys Thr Ser
 20 25 30
 Leu Leu Ala Asn Ser Arg Ser Leu Ser Pro Val Pro Asn Ser Leu Val
 35 40 45
 Pro Ser Asn Pro Glu Asp Thr Gly Leu Arg Lys Ser Ile Phe Thr His
 50 55 60
 Ser Val Thr Leu Phe Ala Gly Leu Val Val Leu Leu Val Ala Val Ser
 65 70 75 80
 Val Val Val Val Ala Leu Thr Val Leu Ala Pro Gly Val Pro Gln Ala
 85 90 95
 Ile Leu Leu Gly Ile Ala Ile Ser Gly Val Gly Ile Gly Gly Phe Ser
 100 105 110
 Ile Met Lys Ser Leu Val Tyr Met Val Arg Asp Tyr Met Ser Pro Arg
 115 120 125
 Met Gln Glu Ser Ser Arg Ile Lys Ser Ala Leu Ala Val Gly Thr Gly
 130 135 140

Phe Thr Val Met Gly Leu Val Met Lys Val Gly Ala Asn Phe Val Pro
145 150 155 160
Gly Gly Tyr Gly Gly Leu Val Gly Ser Leu Gly Ser Ser Ala Tyr Ser
165 170 175
Arg Gly Ser Gln Thr Thr Leu Ala Ser Phe Ser His Tyr Ile Tyr Thr
180 185 190
Lys Phe Phe Arg Ser Glu Lys Val Ala Lys Gly Glu Lys Leu Thr Glu
195 200 205
Ala Glu Thr Ile Lys Glu Ala Lys Lys Leu His Tyr Ile Thr Leu Ser
210 215 220
Ile Ala Thr Ile Gly Val Gly Leu Ala Val Leu Gly Ile Leu Leu Ala
225 230 235 240
Ile Ala Gly Thr Val Leu Leu Gly Gly Ala Pro Ala Thr Ile Ala Ile
245 250 255
Ile Leu Ala Pro Pro Leu Ile Ser Ile Gly Leu Thr Thr Val Leu Gln
260 265 270
Thr Ile Leu His Ser Ser Ile Gly Lys Trp Arg Ala Phe Leu Leu Thr
275 280 285
Gln Glu Lys Lys Asp Leu Phe Val Asp Thr Ser Leu Lys Asp Ile Arg
290 295 300
Leu Glu Lys Leu Pro Pro Ser Glu Val Glu Glu Ser Glu Thr Ser Gln
305 310 315 320
Ser Val Ile Glu Val Pro Asp Ser Glu Gly Ile Ala Glu Thr Arg Ile
325 330 335
Ser Ala Glu Glu Ile Asp Thr Arg Leu Ser Leu Thr Thr Arg Gln Lys
340 345 350
Val Ile Phe Ala Leu Ala Thr Leu Leu Leu Ala Ser Ile Ala Ala
355 360 365
Phe Ile Val Thr Gly Phe Gly Gly Leu Thr Val Met Gln Val Leu Leu
370 375 380
Val Ala Ser Val Gly Ser Ala Val Ala Ser Val Thr Leu Pro Met Val
385 390 395 400
Ser Ser Gly Phe Ser Tyr Val Ala Tyr Gln Leu Lys Ala Arg Leu Asn
405 410 415
Ile Ser Lys Leu Arg Trp Lys Glu Ala Lys Asn Lys Lys Arg Val Arg
420 425 430
Gln Phe Leu Ile Glu Ser Gly Val Ile Ala Ser Asp Arg Glu Phe Asn
435 440 445
Gln Met Trp Lys Thr Val Tyr Lys Lys Gln Ile Gln Lys Thr Asp Ala
450 455 460
Ala Ile Arg Glu Glu Val Arg Asn Phe Glu Lys Gly Gly Glu Val Asn
465 470 475 480
Ser Ala Leu Val Gly Gly Ile Leu Leu Gly Val Gly Thr Gly Ile Met
485 490 495
Leu Leu Ala Leu Val Pro Ala Phe Ala Pro Ile Val Pro Gly Ile Leu
500 505 510
Ala Leu Gly Gly Ser Thr Leu Gly Ile Ala Gly Ser Ile Leu Met Arg
515 520 525
Lys Phe Val Asn Trp Leu Tyr Asp Glu Leu Val Lys Leu Tyr Glu Arg
530 535 540
Arg Arg Asn Arg Arg Glu Leu Leu Tyr Gly Pro Glu Ser Lys Met Arg
545 550 555 560
Ser Ile Ala Thr Asp Leu Val Val Glu Ala Leu Ala Ala Ser His Asp
565 570 575
His Leu Phe Asp Leu Asp Gly Pro Val Asp Phe Ile Asp Val Asp Val
580 585 590
Asp Ile Asp Gly Ala Ala
595

<210> 477
 <211> 722
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0475

<400> 477
 Pro Ser Met Val Asp Lys Leu Ile His Pro Trp Asp Leu Asp Leu Leu
 1 5 10 15
 Val Ser Gly Arg Gln Lys Asp Pro His Lys Leu Leu Gly Ile Leu Ala
 20 25 30
 Ser Glu Asp Ser Ser Asp His Ile Val Ile Phe Arg Pro Gly Ala His
 35 40 45
 Thr Val Ala Ile Glu Leu Leu Gly Glu Leu His His Ala Val Ala Tyr
 50 55 60
 Arg Ser Gly Leu Phe Phe Leu Ser Val Pro Lys Gly Ile Gly His Gly
 65 70 75 80
 Asp Tyr Arg Val Tyr His Gln Asn Gly Leu Leu Ala His Asp Pro Tyr
 85 90 95
 Ala Phe Pro Pro Leu Trp Gly Glu Ile Asp Ser Phe Leu Phe His Arg
 100 105 110
 Gly Thr His Tyr Arg Ile Tyr Glu Arg Met Gly Ala Ile Pro Met Glu
 115 120 125
 Val Gln Gly Ile Ser Gly Val Leu Phe Val Leu Trp Ala Pro His Ala
 130 135 140
 Gln Arg Val Ser Val Val Gly Asp Phe Asn Phe Trp His Gly Leu Val
 145 150 155 160
 Asn Pro Leu Arg Lys Ile Ser Asp Gln Gly Ile Trp Glu Leu Phe Val
 165 170 175
 Pro Gly Leu Gly Glu Gly Ile Arg Tyr Lys Trp Glu Ile Val Thr Gln
 180 185 190
 Ser Gly Asn Val Ile Val Lys Thr Asp Pro Tyr Gly Lys Ser Phe Asp
 195 200 205
 Pro Pro Pro Gln Gly Thr Ala Arg Val Ala Asp Ser Glu Ser Tyr Ser
 210 215 220
 Trp Ser Asp His Arg Trp Met Glu Arg Arg Ser Lys Gln Ser Glu Gly
 225 230 235 240
 Pro Val Thr Ile Tyr Glu Val His Leu Gly Ser Trp Gln Trp Gln Glu
 245 250 255
 Gly Arg Pro Leu Ser Tyr Ser Glu Met Ala His Arg Leu Ala Ser Tyr
 260 265 270
 Cys Lys Glu Met His Tyr Thr His Val Glu Leu Leu Pro Ile Thr Glu
 275 280 285
 His Pro Leu Asn Glu Ser Trp Gly Tyr Gln Val Thr Gly Tyr Tyr Ala
 290 295 300
 Pro Thr Ser Arg Tyr Gly Thr Leu Gln Glu Phe Gln Tyr Phe Val Asp
 305 310 315 320
 Tyr Leu His Lys Glu Asn Ile Gly Ile Ile Leu Asp Trp Val Pro Gly
 325 330 335
 His Phe Pro Val Asp Ala Phe Ala Leu Ala Ser Phe Asp Gly Glu Pro
 340 345 350
 Leu Tyr Glu Tyr Thr Gly His Ser Gln Ala Leu His Pro His Trp Asn
 355 360 365
 Thr Phe Thr Phe Asp Tyr Ser Arg His Glu Val Thr Asn Phe Leu Leu
 370 375 380
 Gly Ser Ala Leu Phe Trp Leu Asp Lys Met His Ile Asp Gly Leu Arg
 385 390 395 400
 Val Asp Ala Val Ala Ser Met Leu Tyr Arg Asp Tyr Gly Arg Glu Asp
 405 410 415

Gly Glu Trp Thr Pro Asn Ile Tyr Gly Gly Lys Glu Asn Leu Glu Ser
 420 425 430
 Ile Glu Phe Leu Lys His Leu Asn Ser Val Ile His Lys Glu Phe Ser
 435 440 445
 Gly Val Leu Thr Phe Ala Glu Glu Ser Thr Ala Phe Pro Gly Val Thr
 450 455 460
 Lys Asp Val Asp Gln Gly Gly Leu Gly Phe Asp Tyr Lys Trp Asn Leu
 465 470 475 480
 Gly Trp Met His Asp Thr Phe His Tyr Phe Met Lys Asp Pro Met Tyr
 485 490 495
 Arg Lys Tyr His Gln Lys Asp Leu Thr Phe Ser Leu Trp Tyr Ala Phe
 500 505 510
 Gln Glu Ser Phe Ile Leu Pro Leu Ser His Asp Glu Val Val His Gly
 515 520 525
 Lys Gly Ser Leu Val Asn Lys Leu Pro Gly Asp Thr Trp Thr Arg Phe
 530 535 540
 Ala Gln Met Arg Val Leu Leu Ser Tyr Gln Ile Cys Leu Pro Gly Lys
 545 550 555 560
 Lys Leu Leu Phe Met Gly Gly Glu Phe Gly Gln Tyr Gly Glu Trp Ser
 565 570 575
 Pro Asp Arg Pro Leu Asp Trp Glu Leu Leu Asn His His Tyr His Lys
 580 585 590
 Thr Leu Arg Asn Cys Val Ser Ala Leu Asn Ala Leu Tyr Ile His Gln
 595 600 605
 Pro Tyr Leu Trp Met Gln Glu Ser Ser Gln Glu Cys Phe His Trp Val
 610 615 620
 Asp Phe His Asp Ile Glu Asn Asn Val Ile Ala Tyr Tyr Arg Phe Ala
 625 630 635 640
 Gly Ser Asn Arg Ser Ser Ala Leu Leu Cys Val His His Phe Ser Ala
 645 650 655
 Ser Thr Phe Pro Ser Tyr Val Leu Arg Cys Glu Gly Val Lys His Cys
 660 665 670
 Glu Leu Leu Leu Asn Thr Asp Asp Glu Ser Phe Gly Gly Ser Gly Lys
 675 680 685
 Gly Asn Arg Ala Pro Val Val Cys Gln Asp Gln Gly Val Ala Trp Gly
 690 695 700
 Leu Asp Ile Glu Leu Pro Pro Leu Ala Thr Val Ile Tyr Leu Val Thr
 705 710 715 720
 Phe Phe

<210> 478
 <211> 340
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0476

<400> 478

Gly Arg Gly Arg Arg Ala Asp Trp Gly Asp Cys Met Ile Asp Ile Met
 1 5 10 15
 Gln His Phe Lys Pro Tyr Thr Met Val Pro Gly Gln Lys Leu Pro Ile
 20 25 30
 Pro Gly Ser Leu Leu Tyr Ala Gln Val Phe Pro Thr Leu Trp Arg Leu
 35 40 45
 Phe Ser Ser Lys His Glu Ile Leu Asn Glu Gln Thr Leu Gln Val Gln
 50 55 60
 Gly Pro Leu Lys Arg Phe Ala Val Phe Gln Asp Leu His Arg Gly Gly
 65 70 75 80

Lys Ile His Ser Phe Glu Gly Lys Ser Arg Ala Phe Ile Lys Val Gln
 130 135 140
 Asp Gly Cys Asn Ser Phe Cys Ser Tyr Cys Ile Ile Pro Tyr Leu Arg
 145 150 155 160
 Gly Arg Ser Val Ser Arg Pro Ala Glu Lys Ile Leu Ala Glu Ile Ala
 165 170 175
 Gly Val Val Asp Gln Gly Tyr Arg Glu Val Val Ile Ala Gly Ile Asn
 180 185 190
 Val Gly Asp Tyr Cys Asp Gly Glu Arg Ser Leu Ala Ser Leu Ile Glu
 195 200 205
 Gln Val Asp Arg Ile Pro Gly Ile Glu Arg Ile Arg Ile Ser Ser Ile
 210 215 220
 Asp Pro Asp Asp Ile Thr Glu Asp Leu His Arg Ala Ile Thr Ser Ser
 225 230 235 240
 Arg His Thr Cys Pro Ser Ser His Leu Val Leu Gln Ser Gly Ser Asn
 245 250 255
 Ser Ile Leu Lys Arg Met Asn Arg Lys Tyr Ser Arg Gly Asp Phe Leu
 260 265 270
 Asp Cys Val Glu Lys Phe Arg Ala Ser Asp Pro Arg Tyr Ala Phe Thr
 275 280 285
 Thr Asp Val Ile Val Gly Phe Pro Gly Glu Ser Asp Gln Asp Phe Glu
 290 295 300
 Asp Thr Leu Arg Ile Ile Glu Asp Val Gly Phe Ile Lys Val His Ser
 305 310 315 320
 Phe Pro Phe Ser Ala Arg Arg Arg Thr Lys Ala Tyr Thr Phe Asp Asn
 325 330 335
 Gln Ile Pro Asn Gln Val Ile Tyr Glu Arg Lys Lys Tyr Leu Ala Glu
 340 345 350
 Val Ala Lys Arg Val Gly Gln Lys Glu Met Met Lys Arg Leu Gly Glu
 355 360 365
 Thr Thr Glu Val Leu Val Glu Lys Val Thr Gly Gln Val Ala Thr Gly
 370 375 380
 His Ser Pro Tyr Phe Glu Lys Val Ser Phe Pro Val Val Gly Thr Val
 385 390 395 400
 Ala Ile Asn Thr Leu Val Ser Val Arg Leu Asp Arg Val Glu Glu Glu
 405 410 415
 Gly Leu Ile Gly Glu Ile Val
 420

<210> 480
 <211> 477
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0478

<400> 480
 Trp His Gly Gly Pro Leu Asp Thr Ile Asp Thr Pro Gly Glu Gln Gly
 1 5 10 15
 Ser Gln Ser Phe Gly Asn Ser Leu Gly Ala Arg Phe Asp Leu Pro Arg
 20 25 30
 Lys Glu Gln Asp Pro Ser Gln Ala Leu Ala Val Ala Ser Tyr Gln Asn
 35 40 45
 Lys Thr Asp Ser Gln Val Val Glu Glu His Leu Asp Glu Leu Ile Ser
 50 55 60
 Leu Ala Asp Ser Cys Gly Ile Ser Val Leu Glu Thr Arg Ser Trp Ile
 65 70 75 80
 Leu Lys Thr Pro Ser Ala Ser Thr Tyr Ile Asn Val Gly Lys Leu Glu
 85 90 95

Glu Ile Glu Glu Ile Leu Lys Glu Phe Pro Ser Ile Gly Thr Leu Ile
 100 105 110
 Ile Asp Glu Glu Ile Thr Pro Ser Gln Gln Arg Asn Leu Glu Lys Arg
 115 120 125
 Leu Gly Leu Val Val Leu Asp Arg Thr Glu Leu Ile Leu Glu Ile Phe
 130 135 140
 Ser Ser Arg Ala Leu Thr Ala Glu Ala Asn Ile Gln Val Gln Leu Ala
 145 150 155 160
 Gln Ala Arg Tyr Leu Leu Pro Arg Leu Lys Arg Leu Trp Gly His Leu
 165 170 175
 Ser Arg Gln Lys Ser Gly Gly Gly Ser Gly Gly Phe Val Lys Gly Glu
 180 185 190
 Gly Glu Lys Gln Ile Glu Leu Asp Arg Arg Met Val Arg Glu Arg Ile
 195 200 205
 His Lys Leu Ser Ala Gln Leu Lys Ala Val Ile Lys Gln Arg Ala Glu
 210 215 220
 Arg Arg Lys Val Lys Ser Arg Arg Gly Ile Pro Thr Phe Ala Leu Ile
 225 230 235 240
 Gly Tyr Thr Asn Ser Gly Lys Ser Thr Leu Leu Asn Leu Leu Thr Ala
 245 250 255
 Ala Asp Thr Tyr Val Glu Asp Lys Leu Phe Ala Thr Leu Asp Pro Lys
 260 265 270
 Thr Arg Lys Cys Val Leu Pro Gly Gly Arg His Val Leu Leu Thr Asp
 275 280 285
 Thr Val Gly Phe Ile Arg Lys Leu Pro His Thr Leu Val Ala Ala Phe
 290 295 300
 Lys Ser Thr Leu Glu Ala Ala Phe His Glu Asp Val Leu Leu His Val
 305 310 315 320
 Val Asp Ala Ser His Pro Leu Ala Leu Glu His Val Gln Thr Thr Tyr
 325 330 335
 Asp Leu Phe Gln Glu Leu Lys Ile Glu Lys Pro Arg Ile Ile Thr Val
 340 345 350
 Leu Asn Lys Val Asp Arg Leu Pro Gln Gly Ser Ile Pro Met Lys Leu
 355 360 365
 Arg Leu Leu Ser Pro Leu Pro Val Leu Ile Ser Ala Lys Thr Gly Glu
 370 375 380
 Gly Ile Gln Asn Leu Leu Ser Leu Met Thr Glu Ile Ile Gln Glu Lys
 385 390 395 400
 Ser Leu His Val Thr Leu Asn Phe Pro Tyr Thr Glu Tyr Gly Lys Phe
 405 410 415
 Thr Glu Leu Cys Asp Ala Gly Val Val Ala Ser Ser Arg Tyr Gln Glu
 420 425 430
 Asp Phe Leu Val Val Glu Ala Tyr Leu Pro Lys Glu Leu Gln Lys Lys
 435 440 445
 Phe Arg Pro Phe Ile Ser Tyr Val Phe Pro Glu Asp Cys Gly Asp Asp
 450 455 460
 Glu Gly Arg Gly Pro Val Leu Glu Ser Ser Phe Gly Asp
 465 470 475

<210> 481
 <211> 273
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0479

<400> 481
 Ala Ile Gly Met Val Arg Asp Ile Gln Ser Glu Ser Ile Gly Lys Leu
 1 5 10 15

Val Phe Leu Gly Thr Gly Asn Pro Glu Gly Ile Pro Val Pro Phe Cys
 20 25 30
 Ser Cys Arg Val Cys Gln Asn Thr Gly Ile His Arg Leu Arg Ser Ser
 35 40 45
 Val Leu Ile Gln Tyr Gln Asn Lys Thr Leu Val Ile Asp Ala Gly Pro
 50 55 60
 Asp Phe Arg Thr Gln Met Leu Val Ala Gly Val Ser Glu Leu Asp Gly
 65 70 75 80
 Val Phe Leu Thr His Pro His Tyr Asp His Ile Gly Gly Ile Asp Asp
 85 90 95
 Leu Arg Ala Trp Tyr Ile Val Thr Gln Arg Ser Leu Pro Leu Val Leu
 100 105 110
 Ser Ala Ser Thr Tyr Arg Phe Leu Asn Lys Ala Lys Glu Tyr Leu Phe
 115 120 125
 Ala Thr Pro Asn Val Glu Ser Ser Leu Pro Ala Val Leu Glu Phe Thr
 130 135 140
 Ile Leu Asn Glu Asp Cys Gly Gln Glu Glu Phe Gln Gly Ile Pro Tyr
 145 150 155 160
 Thr Tyr Val Ser Tyr Tyr Gln Lys Ser Cys His Val Thr Gly Phe Arg
 165 170 175
 Phe Gly Asn Leu Ala Tyr Leu Thr Asp Leu Cys Ser Tyr Asp Ala Lys
 180 185 190
 Ile Phe Ser Tyr Leu Asp Asn Val Glu Thr Leu Ile Leu Ser Ala Gly
 195 200 205
 Pro Ser Glu Thr Pro Ile Pro Phe Gln Gly His Lys Ser Ser His Leu
 210 215 220
 Thr Val Glu Glu Ala Lys Ala Phe Ala Asn His Ala Gly Ile Lys Asn
 225 230 235 240
 Leu Ile Ile Thr His Ile Ser His Cys Leu Glu Ala Glu Arg Asp Gln
 245 250 255
 His Pro Glu Val Thr Phe Ala Tyr Asp Gly Met Glu Val Leu Trp Thr
 260 265 270
 Leu

<210> 482
 <211> 242
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0480

<400> 482
 Ser Asp Glu Arg Ile Ser Trp Gly Ile Ser Gly Arg Leu Gly Glu Phe
 1 5 10 15
 Val Ser Lys Lys Glu Gln Asp Cys Met Leu Gly Ser Leu Pro Cys Tyr
 20 25 30
 Pro Gly Ala Gly Asn Ile Glu Glu Tyr Lys Asn Arg Tyr Phe Tyr Cys
 35 40 45
 Gln Leu Cys Ala Glu Val Val Ser Pro Tyr Val Val Pro Val Ile Val
 50 55 60
 Val Asp Val Gln Gly Ala Pro Pro Thr Gly Ile Leu Gln Val Leu Arg
 65 70 75 80
 Cys Lys Gln His Lys Phe Gln Gly Leu Pro Val His Gly Pro Ile Thr
 85 90 95
 Ser Leu Trp Ala Leu Glu Pro Val Gly Lys Gly Ala Pro Gln Leu Glu
 100 105 110
 Ser Ala Met Tyr Glu Leu Cys Ser Gln Val Arg Asn Phe Asp Ile Cys
 115 120 125

Ser Ile Val Ser Trp Val Phe Gly Gly Leu Cys Ile Phe Ala Gly Leu
 130 135 140
 Ile Val Gly Val Met Val Glu Ala Pro Leu Ile Ala Gly Leu Ser Ala
 145 150 155 160
 Trp Val Ile Pro Cys Ile Ile Gly Gly Val Gly Ala Ile Leu Cys Leu
 165 170 175
 Phe Ala Ile Leu Met Ala Tyr Leu Gly Arg Gly Arg Val Arg Glu Trp
 180 185 190
 Leu Asn Leu Ser His Glu Tyr Ile Thr Gln Cys His Cys Arg Gln Ile
 195 200 205
 Gln Ala His Ser Gln Asn Tyr Ser Val Ile Thr Glu Tyr Pro Ala Thr
 210 215 220
 Cys Ala Leu Ser Gln Pro Ile Thr Lys Leu Pro Asn Gly Ser Arg Arg
 225 230 235 240
 Asp Asn

<210> 483
 <211> 545
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0481

<400> 483

Ser Cys Leu Arg Ile Glu Gly Ile Leu Met Ala Thr Ser Val Pro Val
 1 5 10 15
 Thr Ser Ser Thr Ser Val Gly Glu Ala Asn Ser Ser Asn Glu Arg Phe
 20 25 30
 Thr Glu Arg Thr Ser Arg Met Tyr Tyr Ala Ala Leu Val Leu Gly Ala
 35 40 45
 Leu Ser Cys Leu Ile Phe Ile Ala Met Ile Val Ile Phe Pro Gln Val
 50 55 60
 Gly Leu Trp Ala Val Val Leu Gly Phe Ala Leu Gly Cys Leu Leu Leu
 65 70 75 80
 Ser Leu Ala Ile Val Phe Ala Val Ser Gly Leu Val Leu Gly Lys Thr
 85 90 95
 Leu Glu Pro Ser Arg Glu Ala Thr Pro Pro Glu Ile Val Ala Gln Lys
 100 105 110
 Glu Trp Thr Thr Gln Gln Asp Val Leu Gly Asn Glu Tyr Trp Arg Ser
 115 120 125
 Glu Leu Ile Ser Leu Phe Leu Arg Gly Asp Leu His Glu Ser Leu Ile
 130 135 140
 Val Asp Ser Lys Asp Arg Ser Leu Asp Ile Asp Gln Ser Leu Gln Asn
 145 150 155 160
 Ile Leu Lys Leu Glu Pro Leu Ser Thr Thr Leu Ser Leu Leu Lys Lys
 165 170 175
 Asp Cys Val His Ile Asn Ile Ile Leu His Leu Val Arg Gln Trp Asn
 180 185 190
 Leu Leu Gly Val Asp Leu Ser Pro Glu Val Thr Ala His Ala Glu Glu
 195 200 205
 Leu Leu Leu Phe Leu Ile Glu Glu Gln Tyr Tyr Ser Pro Asp Ile Leu
 210 215 220
 Lys Leu Ile Arg Tyr Gly Asp Ala Leu Gln Ala Thr Ser Pro Leu Met
 225 230 235 240
 Asp Trp Ala Asp Ser Gly Ser Phe Ser Val Asp Ala Asp Gly Val Phe
 245 250 255
 Ser Cys Arg Arg Glu Glu Cys Ser Pro Glu Asp Ala Leu Ala Gln Phe
 260 265 270

Asp Leu Leu Leu Ala Leu Glu Asn Pro Asp Arg Arg Phe Leu Lys Asp
 275 280 285
 Ser Phe Leu Thr Tyr Ile Trp Ser Ser Ser Phe Phe Glu Lys Phe Leu
 290 295 300
 His Arg His Leu Glu Ser Leu Gln Arg Lys Leu Pro Glu Thr Ala Ile
 305 310 315 320
 Asp Val Ala Arg Tyr Glu Ala Gln Ile Gln Thr Phe Leu Ser Arg Tyr
 325 330 335
 Phe Gln Lys Leu Asp Leu Ile Asn Ala Met Ser Leu Asp Trp Gly Tyr
 340 345 350
 Asn Cys Ala Glu Gly Glu Lys Cys Tyr Glu Ser Ala Asn Gln Arg Leu
 355 360 365
 Asp Asn Leu Phe Ile Ala Phe Ser Ser Ser Val Pro Ala Met Lys Arg
 370 375 380
 Leu Phe Asp Lys Tyr Gly Ser Val Val Arg Val Asp Arg Arg Gln Ile
 385 390 395 400
 Arg Glu Gln Ile Leu Ser Asn Thr Glu Ile Leu Glu Asn Glu Ser Gly
 405 410 415
 Phe Leu Cys Ser Leu Tyr Glu Tyr Pro Leu Ser Tyr Leu Ile Asp Trp
 420 425 430
 Ala Val Leu Leu Asp Cys Val Arg Gly Thr Glu Ile Ser Leu Glu Asp
 435 440 445
 Gln Ala Asp Tyr Thr Val Cys Leu Gln Gly Leu Asp Ser Met Leu Ser
 450 455 460
 Gln Phe Ala Ser Arg Leu Gln Ser Gly Gln Lys Val Leu Asn Pro Arg
 465 470 475 480
 Asp Val Leu Ser Glu Gln Ala Ala Val Met Leu Val His Gly Leu Ala
 485 490 495
 Ala Gln Gly Val Ser Phe Gln Gly Leu Lys Ala Leu Met Tyr Leu Thr
 500 505 510
 Ala Val Pro Gln Arg Met Trp Leu Gly Ala Leu Pro Leu Phe Glu Ser
 515 520 525
 Phe Pro Val Phe Asn Arg Met Lys Glu Phe Leu Gly Glu Ser Leu Gly
 530 535 540
 Asp
 545

<210> 484
 <211> 268
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0482

<400> 484
 Asn Leu Ala Tyr Arg Ala Gln Thr Phe Met Ile Lys Gln Ile Gly Arg
 1 5 10 15
 Phe Phe Arg Ala Phe Ile Phe Ile Met Pro Leu Ser Leu Thr Ser Cys
 20 25 30
 Glu Ser Lys Ile Asp Arg Asn Arg Ile Trp Ile Val Gly Thr Asn Ala
 35 40 45
 Thr Tyr Pro Pro Phe Glu Tyr Val Asp Ala Gln Gly Glu Val Val Gly
 50 55 60
 Phe Asp Ile Asp Leu Ala Lys Ala Ile Ser Glu Lys Leu Gly Lys Gln
 65 70 75 80
 Leu Glu Val Arg Glu Phe Ala Phe Asp Ala Leu Ile Leu Asn Leu Lys
 85 90 95
 Lys His Arg Ile Asp Ala Ile Leu Ala Gly Met Ser Ile Thr Pro Ser
 100 105 110

Arg Gln Lys Glu Ile Ala Leu Leu Pro Tyr Tyr Gly Asp Glu Val Gln
 115 120 125
 Glu Leu Met Val Val Ser Lys Arg Ser Leu Glu Thr Pro Val Leu Pro
 130 135 140
 Leu Thr Gln Tyr Ser Ser Val Ala Val Gln Thr Gly Thr Phe Gln Glu
 145 150 155 160
 His Tyr Leu Leu Ser Gln Pro Gly Ile Cys Val Arg Ser Phe Asp Ser
 165 170 175
 Thr Leu Glu Val Ile Met Glu Val Arg Tyr Gly Lys Ser Pro Val Ala
 180 185 190
 Val Leu Glu Pro Ser Val Gly Arg Val Val Leu Lys Asp Phe Pro Asn
 195 200 205
 Leu Val Ala Thr Arg Leu Glu Leu Pro Pro Glu Cys Trp Val Leu Gly
 210 215 220
 Cys Gly Leu Gly Val Ala Lys Asp Arg Pro Glu Glu Ile Gln Thr Ile
 225 230 235 240
 Gln Gln Ala Ile Thr Asp Leu Lys Ser Glu Gly Val Ile Gln Ser Leu
 245 250 255
 Thr Lys Lys Trp Gln Leu Ser Glu Val Ala Tyr Glu
 260 265

<210> 485
 <211> 1045
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0483

<400> 485
 Ile Ile Leu Ile Lys Lys Arg Ala Ile Phe Glu Arg Met Phe Pro Ile
 1 5 10 15
 Pro Pro Pro His Cys Pro Pro Asn Asn Lys Asn Asn Phe Tyr His Leu
 20 25 30
 Thr Thr Asp Thr Lys Asp Pro Leu Leu Arg Ile Leu Arg Thr Ile
 35 40 45
 Gly Tyr Val Leu Leu His Ile Ile Thr Leu Gly Leu Leu Leu Ile
 50 55 60
 His Tyr Tyr Lys His His Arg Val Val Arg Lys Glu Gly Leu Pro Thr
 65 70 75 80
 Pro Pro Thr Leu Pro Lys Gly Pro Glu Pro Lys Thr Ile Glu Ile Ala
 85 90 95
 Lys Gln Pro Pro Lys Asp Gly Glu Asp Lys Lys Pro Asp Val Pro Lys
 100 105 110
 Pro Gly Thr Pro Pro Pro Glu Asp Thr Pro Pro Pro Pro Pro Lys Ala
 115 120 125
 Pro Ser Pro Ala Ser Pro Lys Val Pro Lys Gln Pro Ala Asp Lys Lys
 130 135 140
 Pro Thr Pro Pro Pro Glu Ala Pro Pro Pro Pro Val Arg Val Ala Thr
 145 150 155 160
 Pro Met Pro Leu Arg Pro Ser Ser Gln Gly Tyr Trp Gln Cys Leu Asn
 165 170 175
 Arg Met Val Ser Met Val Leu Arg Arg Ala Pro Leu Pro Leu Pro Ala
 180 185 190
 Met Gln Val Asp Pro Ile Leu Gly Asp Phe Asn Pro His Phe Val Ala
 195 200 205
 Ser Tyr Pro Asn Arg Ile Asp Asn Glu Pro Met Tyr Phe Gln Ile Lys
 210 215 220
 Gln Phe Lys Lys Ile Ala Gln Asn Pro Asp Leu Pro Gln Gln His Arg
 225 230 235 240

Arg	Leu	Ala	Gln	Leu	Ser	Leu	Glu	Gln	Ala	Leu	Tyr	Leu	Asn	Asp	Asn	245	250	255
Tyr	Tyr	Leu	Val	Asn	Val	Pro	Gly	Asp	Gly	Asn	Cys	Phe	Tyr	Arg	Ala	260	265	270
Tyr	Ala	Val	Gly	Trp	Leu	Ser	Ala	Leu	Tyr	Glu	Glu	Ser	Ser	Arg	Asn	275	280	285
Asp	Ile	Val	Phe	Glu	Gln	Glu	Ala	Thr	Arg	Leu	Leu	Asp	Leu	Pro	Phe	290	295	300
Ala	Ser	Ser	Ser	Pro	Ala	Asn	Ala	Asn	Leu	Cys	Ala	Glu	Met	Ala	Glu	305	310	315
Leu	Leu	Gln	Leu	Cys	Ser	Thr	Tyr	Cys	Ser	Phe	Ile	Asp	Leu	Tyr	Asp	320	325	330
Gly	Val	Ile	Leu	Ser	Gln	Lys	His	Thr	Ala	Thr	Leu	Ile	Ala	Phe	Leu	335	340	345
Arg	Lys	Leu	Ser	Ala	Tyr	Ala	Ile	Arg	Gln	Gln	Ile	Ala	Ala	Ser	Ser	350	355	360
Asn	Glu	Glu	Thr	Ala	Arg	Ala	Leu	Phe	Ile	Ser	Asp	Met	Gln	Asp	Asp	365	370	375
Leu	Leu	Pro	Ser	Val	Leu	Glu	Phe	Leu	Ala	Ala	Asn	Arg	Pro	Tyr	Ser	380	385	390
Glu	Leu	Phe	Gln	Asn	Leu	Ile	Asp	His	Ser	Ala	Leu	Pro	Tyr	Met	Gln	395	400	405
Ser	Arg	Asp	Lys	Leu	Phe	Leu	Leu	Leu	Glu	His	Leu	Pro	Ala	Leu	Phe	410	415	420
Leu	Thr	Asp	Ala	Glu	Leu	Gln	Lys	Met	Ser	Pro	Glu	Asp	Gln	Gln	Leu	425	430	435
Arg	Lys	Gln	Tyr	Glu	Arg	Glu	Ile	Arg	Glu	Ala	Phe	Ala	Lys	Leu	Ser	440	445	450
Arg	Arg	Ile	Ala	Asp	Ser	Gly	Trp	Asp	Thr	Glu	Arg	Phe	Asn	Ala	Ile	455	460	465
Val	Lys	Asp	His	Leu	Pro	Glu	Ala	Ile	Arg	Cys	Gln	Tyr	Ser	Arg	Phe	470	475	480
Leu	Ala	Thr	Ile	Glu	Asn	Arg	Arg	Ser	Gly	Asp	Leu	Pro	Trp	Ser	Pro	485	490	495
Ala	Leu	Ser	Phe	Phe	Ala	Phe	Leu	Cys	Thr	Cys	Pro	Ser	Val	Arg	Phe	500	505	510
His	Lys	Leu	Cys	Ala	Thr	Phe	Tyr	Lys	Ser	Leu	Glu	Asp	Ile	Ile	Ile	515	520	525
Ala	Ser	Ala	Pro	Pro	Gln	Arg	Ser	Ile	Gln	Glu	Ile	Leu	Gln	Ile	Ser	530	535	540
Asn	Ala	Ser	Leu	Ser	Tyr	Leu	Asn	Glu	Asp	Leu	Asp	Ser	Ser	Trp	Gln	545	550	555
Arg	Glu	Val	Ile	Ser	Ser	Asn	Ile	Met	Thr	Ile	Leu	Thr	Thr	His	Glu	560	565	570
Ser	Leu	Thr	Leu	Glu	Ser	Ser	Met	Pro	Gln	Leu	Glu	Thr	Leu	His	Lys	575	580	585
Arg	Ile	Ala	Asn	Leu	Leu	Lys	Asn	Val	Ile	Ser	Thr	Ser	Phe	Glu	Thr	590	595	600
Pro	Pro	Leu	Ser	Asn	Gln	Pro	Asp	Leu	Leu	Ser	Asn	Leu	Val	Asn	Lys	605	610	615
Leu	Leu	Val	Ala	Ile	His	Ser	Lys	Leu	Glu	Leu	Lys	Glu	His	Phe	Asn	620	625	630
Thr	Val	Cys	Ser	Ala	Arg	Ser	Leu	Arg	Leu	Thr	Arg	Asp	Glu	Gly	Ser	635	640	645
Gly	Leu	Ser	Gln	Glu	Gln	Asp	Leu	Leu	Tyr	Thr	Gln	Ala	Val	Gln	Leu	650	655	660
Leu	Phe	Phe	Ile	Leu	Gln	His	Pro	Gln	Val	Asn	Asn	Arg	Pro	Glu	Thr	665	670	675
Lys	Asp	Ala	Val	Lys	Glu	Leu	Lys	Met	Leu	Leu	Pro	Phe	Leu	Gln		680	685	690
																700	705	710
																715	720	

Tyr Ala Phe Lys Lys Val Glu Asn Glu Lys Lys Leu Gln Lys Leu Leu
 725 730 735
 Arg Ser Ile Leu Gly Ser Leu Val Leu Lys Pro Pro Ala Arg Tyr Pro
 740 745 750
 Ser Thr Pro Ser Asn Lys Asp Lys Glu Thr Phe Cys Lys Phe Trp Ser
 755 760 765
 Arg His Pro Glu Val Met Val Leu Asp Pro Ile Leu Glu Lys Asn Cys
 770 775 780
 Met Gln Phe Leu Arg Ala Thr Phe Pro Asn Tyr Gln Leu Glu Thr Glu
 785 790 795 800
 Ala Ile Leu Leu Glu Lys Glu Ile Glu Ser Thr Phe Arg Asn Gly Trp
 805 810 815
 Asn Val Phe Leu Thr Arg Leu Asn Leu Phe Gly Ser Lys Leu Gly Ser
 820 825 830
 Pro Ser Ser Pro Thr Ala Leu Ser Asp Gln Phe Ser Lys Ser Phe Leu
 835 840 845
 Ile Phe Cys Phe Leu Asn Asn Tyr Pro Lys Leu Leu Gln Lys Lys Thr
 850 855 860
 Pro Leu Ala Ala Arg Leu Asp Ala Phe Gln Arg Glu Ala Ser His Arg
 865 870 875 880
 Phe Thr Gln Val Lys Asp Lys Leu Leu Leu Ser Leu Lys Tyr Gly Phe
 885 890 895
 Pro Leu Ala Thr Ala Thr Ile Asn Gln Tyr Ser Arg Ala Arg Asp Gln
 900 905 910
 Leu Ile Cys Asn Leu Leu Lys Asn Thr Val Thr Ala Ser Asp Gly Phe
 915 920 925
 Cys Arg Ser Gly Phe Arg Gln Ser Leu Ile Gly Tyr Leu His Ser Leu
 930 935 940
 Ser Ser Asn Glu Leu Gly Asp Ile Leu Asp Asp Val Lys Glu Gln Ala
 945 950 955 960
 Glu Ala Asn Asp Val Ala Ala Met Thr Thr Val Pro Leu Gln Pro Phe
 965 970 975
 Ala Val Cys Leu Ile Met Ser Asp Arg Asp Thr Val Ser Glu Glu Asn
 980 985 990
 Ile Glu Asn Phe Val Ala Met His Gly Phe Leu Asn Thr Ile Ser Pro
 995 1000 1005
 Glu Arg Asp Ala Arg Ile Phe Leu Ile Arg Phe Pro Asn His Tyr Gly
 1010 1015 1020
 Cys Leu Leu Pro Arg Asn Pro Arg Thr Glu Asp Gln Asn Ser Lys Pro
 1025 1030 1035 1040
 Asp Ser Ser Asn Pro
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<210> 486

<211> 298

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0484

<400> 486

Arg Ser Glu Leu Lys Thr Gly Gln Leu Lys Ser Leu Val Leu His Glu
 1 5 10 15
 Val Leu Ile Leu Thr Phe Thr Tyr Pro Leu Pro Arg Thr Leu Lys Gln
 20 25 30
 His Pro Asp Glu Val His Thr Val Pro Ile Ser Pro Asn Leu Ser Phe
 35 40 45
 Gly Glu Gly Ser Pro Ile Leu Ile Ala Gly Pro Cys Thr Leu Glu Ser
 50 55 60

Tyr Glu His Thr Val Ser Ser Ala Leu Thr Val Lys Glu Ala Gly Ala
 65 70 75 80
 Gln Val Phe Arg Gly Ser Ile Arg Lys Pro Arg Thr Ser Pro Phe Ser
 85 90 95
 Phe Gln Gly Trp Glu Lys Glu Cys Val Leu Trp His Lys Glu Ala Gln
 100 105 110
 Ser Ile His Gly Leu Pro Thr Glu Thr Glu Val Leu Asp Val Arg Asp
 115 120 125
 Val Glu Ile Thr Ala Glu His Val Asp Ile Leu Arg Ile Gly Ala Lys
 130 135 140
 Asn Met His Asn Thr Pro Leu Leu Gln Glu Val Ser Lys Ser His Arg
 145 150 155 160
 Pro Ile Ile Leu Lys Arg Ser Pro Ala Ala Thr Leu Glu Glu Trp Leu
 165 170 175
 Cys Ala Ala Glu Tyr Ile Leu Ala Ser Ser Pro Ser Cys Pro Gly Val
 180 185 190
 Ile Leu Cys Glu Arg Gly Ile Arg Thr Phe Glu His Ser Thr Arg Tyr
 195 200 205
 Thr Leu Asp Leu Asn Thr Val Ala Leu Leu Lys Glu Ile Ser Ser Leu
 210 215 220
 Pro Val Ile Val Asp Pro Ser His Ala Ala Gly Lys Arg Ser Leu Val
 225 230 235 240
 Leu Pro Leu Ala Ser Ala Gly Leu Ser Val Gly Ala Asp Gly Leu Met
 245 250 255
 Ile Glu Val His Ala His Pro Glu Lys Ala Leu Cys Asp Ala Lys Gln
 260 265 270
 Gln Ile Thr Pro Glu Glu Leu His Leu Phe Ala Lys Lys His Phe Cys
 275 280 285
 Pro Ser Glu Ser Arg Ala His Ala Ile Ser
 290 295

<210> 487
 <211> 79
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0485

<400> 487
 Gln Pro Ile Gly Arg Thr Pro Thr Arg Val Phe Leu Trp Arg Phe Met
 1 5 10 15
 Ile Lys Gln Ala Cys Lys Phe Tyr Leu Leu Gln Cys Leu Leu Cys Ala
 20 25 30
 Leu Tyr Trp Leu Leu Lys Tyr Cys Arg Lys Leu Leu Lys Gly Thr Leu
 35 40 45
 His His Ser Glu Glu Thr Leu Tyr Gln Ala Leu Leu Ser Ser Leu Ile
 50 55 60
 Asp Leu Leu Tyr Gln Leu Lys Gln Leu Pro Ala Pro Thr Asn Glu
 65 70 75

<210> 488
 <211> 465
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0486

<400> 488

Ala	Gln	His	Arg	Ser	Leu	Leu	Lys	Gly	Asn	Ile	Phe	His	Leu	Gly	Cys
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Gly	Val	Leu	Tyr	Phe	Met	Asn	Phe	Ser	Leu	Phe	Leu	Phe	Phe	Leu	Ile
			20					25					30		
Ala	Ile	Gln	Gly	Ile	Cys	Leu	Tyr	Val	Gly	Arg	Arg	Gly	Ser	Lys	Lys
		35					40					45			
Val	Glu	Asp	Arg	Glu	Ser	Tyr	Phe	Leu	Ala	Gly	Arg	Ser	Leu	Lys	Ile
	50					55					60				
Phe	Pro	Leu	Met	Met	Thr	Phe	Ile	Ala	Thr	Gln	Ile	Gly	Gly	Gly	Val
65					70					75					80
Leu	Leu	Gly	Ala	Ala	Glu	Glu	Ala	Phe	Cys	Tyr	Gly	Tyr	Gly	Gly	Ile
				85					90					95	
Leu	Tyr	Pro	Leu	Gly	Val	Ala	Leu	Gly	Leu	Ile	Phe	Leu	Gly	Met	Gly
			100					105					110		
Pro	Gly	Lys	Arg	Leu	Ala	Glu	Gly	Ser	Leu	Thr	Thr	Val	Val	Ser	Ile
		115					120					125			
Phe	Glu	Val	Phe	Tyr	Gly	Ser	Lys	Lys	Leu	Arg	Lys	Ile	Ala	Phe	Leu
	130				135						140				
Leu	Ser	Ala	Gly	Ser	Leu	Phe	Phe	Ile	Leu	Val	Ala	Gln	Val	Ile	Ala
145					150					155					160
Leu	Asp	Arg	Leu	Phe	Ser	Ser	Phe	Pro	Phe	Gly	Lys	Tyr	Val	Thr	Val
				165					170					175	
Ala	Phe	Trp	Ile	Val	Leu	Ala	Ser	Tyr	Thr	Ser	Thr	Gly	Gly	Phe	Arg
			180					185					190		
Gly	Val	Val	Arg	Thr	Asp	Val	Ile	Gln	Ala	Gly	Phe	Leu	Leu	Ile	Ala
	195					200						205			
Val	Leu	Val	Cys	Gly	Val	Ser	Val	Trp	Leu	Ser	Val	Pro	Lys	Ser	Leu
	210					215					220				
Ser	Val	Leu	Asp	Pro	Phe	Gln	Ser	Leu	Pro	Cys	Ala	Lys	Leu	Ser	Asn
225					230					235					240
Trp	Ile	Phe	Met	Pro	Met	Leu	Phe	Met	Leu	Val	Glu	Gln	Asp	Met	Val
			245						250					255	
Gln	Arg	Cys	Val	Ala	Ala	Ser	Ser	Pro	Lys	Arg	Leu	Gln	Trp	Ala	Ala
			260					265					270		
Val	Gly	Ala	Gly	Leu	Val	Leu	Leu	Leu	Phe	Asn	Phe	Ile	Pro	Leu	Phe
	275						280					285			
Leu	Gly	Ser	Leu	Gly	Ala	Lys	Ala	Gly	Leu	Lys	Ala	Gly	Cys	Pro	Leu
	290					295					300				
Ile	Asp	Thr	Ile	Ala	Tyr	Phe	Cys	Asn	Pro	Ser	Leu	Ala	Ala	Val	Met
305					310					315					320
Ala	Ala	Ala	Ile	Gly	Val	Ala	Ile	Leu	Ser	Thr	Ala	Asp	Ser	Leu	Met
			325						330					335	
Asn	Ala	Val	Ser	Gln	Leu	Ile	Ala	Glu	Glu	Tyr	Pro	Thr	Leu	Lys	Ala
			340					345					350		
Pro	Tyr	Tyr	Arg	Tyr	Leu	Val	Leu	Gly	Leu	Ala	Val	Ala	Ala	Pro	Leu
		355					360					365			
Val	Ala	Ile	Gly	Phe	Thr	Asn	Ile	Val	Asp	Val	Leu	Ile	Leu	Ser	Tyr
	370					375					380				
Ser	Leu	Ser	Val	Cys	Cys	Leu	Ser	Val	Pro	Val	Gly	Phe	Tyr	Leu	Leu
385					390					395					400
Ala	Pro	Lys	Gly	Arg	Val	Ser	Gly	Ala	Ala	Ala	Trp	Ala	Gly	Val	
			405					410					415		
Leu	Val	Gly	Ala	Leu	Gly	Tyr	Gly	Trp	Val	Gln	Ile	Val	Ser	Leu	Gly
			420					425					430		
Met	Phe	Gly	Glu	Leu	Leu	Ala	Trp	Val	Gly	Ser	Leu	Val	Ala	Phe	Ser
	435						440					445			
Phe	Val	Gly	Phe	Ile	Glu	Ile	Thr	Trp	Lys	Asn	Lys	Val	Lys	Thr	Gln
	450					455					460				
Thr															
465															

<210> 489
 <211> 574
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0487

<400> 489
 Arg Arg Thr Gly Gly Ile Ser Leu Thr Tyr Ser Ser Phe Arg Trp Ala
 1 5 10 15
 Ser Phe Arg Cys Tyr Ser Leu Ile Phe Phe Cys Phe Cys Gly Ser Leu
 20 25 30
 Phe Gly Ser Glu Ser Leu Arg Tyr Gln Leu Leu Ile Gln Asp Phe Ala
 35 40 45
 Lys Val Ser Glu Glu Gly Ile Gly Leu Leu Glu Ser Lys Glu Tyr Ser
 50 55 60
 Leu Leu Gln Ala Lys Leu Val Leu Arg Ala Leu Ala Gln Asn Ser Ser
 65 70 75 80
 Phe Asp Asp Trp Phe Arg Ser Phe Lys Lys Cys Gln Ile Ser Tyr Pro
 85 90 95
 Glu Leu Ala His Asp Arg Asp Val Leu Glu Glu Phe Gly Ile Gln Val
 100 105 110
 Leu Arg Glu Gly Ile Glu Asn Pro Ser Val Thr Val Arg Ala Val Ser
 115 120 125
 Val Leu Ala Ile Gly Leu Ala Arg Asp Phe Arg Leu Val Pro Leu Leu
 130 135 140
 Leu Gln Ser Cys Asn Asp Asp Ser Ala Ile Val Arg Ser Leu Ala Leu
 145 150 155 160
 Gln Val Ala Val Asn Tyr Gly Ser Glu Ser Leu Lys Lys Ala Ile Val
 165 170 175
 Glu Leu Ala Arg Asn Asp Asp Ser Ile His Val Arg Ile Thr Ala Tyr
 180 185 190
 Gln Val Val Ala Leu Leu Gln Ile Glu Glu Leu Leu Pro Phe Leu Arg
 195 200 205
 Glu Arg Ala Glu Asn Lys Leu Val Asp Ser Val Glu Arg Arg Glu Ala
 210 215 220
 Trp Lys Ala Cys Leu Glu Leu Ser Ser Gln Phe Leu Glu Thr Gly Val
 225 230 235 240
 Ala Lys Asp Asp Ile Asp Gln Ala Leu Phe Thr Cys Glu Val Leu Arg
 245 250 255
 Asn Gly Met Leu Pro Glu Thr Thr Glu Ile Phe Thr Glu Leu Leu Ser
 260 265 270
 Val Glu His Pro Glu Val Gln Glu Ser Leu Leu Leu Ser Ala Leu Ala
 275 280 285
 Trp Ser His Gln Leu Gln Asn His Lys Glu Phe Leu Ser Lys Val Arg
 290 295 300
 His Val Met Cys Thr Ser Pro Phe Ala Lys Val Arg Phe Gln Ala Ala
 305 310 315 320
 Ala Leu Leu His Leu His Gly Asp Pro Leu Gly Arg Asp Ser Leu Val
 325 330 335
 Glu Gly Leu Arg Ser Pro Gln Pro Leu Val Cys Glu Ala Ala Ser Ala
 340 345 350
 Ala Leu Cys Ser Leu Gly Ile His Gly Val Pro Leu Ala Lys Glu His
 355 360 365
 Leu Glu Ser Leu Ser Ser Arg Lys Ala Ala Ala Asn Leu Ser Ile Leu
 370 375 380
 Leu Leu Val Ser Arg Glu Asp Ile Glu Arg Ala Gly Asp Val Ile Ala
 385 390 395 400
 Arg Tyr Leu Ser Asn Pro Glu Met Cys Trp Ala Ile Glu Tyr Phe Leu
 405 410 415

Trp Asp Ala Gln Trp Asn Leu Arg Gly Asp Thr Phe Pro Leu Tyr Ser
 420 425 430
 Asp Met Ile Lys Arg Glu Ile Gly Arg Lys Leu Ile Arg Leu Leu Ala
 435 440 445
 Val Ala Arg Tyr Ser Gln Ala Lys Ala Val Thr Ala Thr Phe Leu Ser
 450 455 460
 Gly Gln Gln Ala Gln Gly Trp Ser Phe Phe Ser Gly Met Phe Trp Glu
 465 470 475 480
 Glu Gly Asp Val Lys Thr Ser Glu Asp Leu Val Thr Asp Ala Cys Phe
 485 490 495
 Ala Ala Lys Leu Glu Gly Ala Leu Ala Ser Leu Cys Gln Lys Lys Asp
 500 505 510
 Gln Ala Ser Leu Gln Arg Val Ser Gln Leu Tyr Asn Asp Ser Arg Trp
 515 520 525
 Gln Asp Lys Leu Ala Ile Leu Glu Ser Val Ala Phe Ser Glu Asn Leu
 530 535 540
 Asp Ala Val Pro Phe Leu Leu Asp Cys Cys His His Glu Ala Pro Ser
 545 550 555 560
 Leu Arg Ser Ala Ala Ala Gly Ala Leu Phe Ser Ile Phe Lys
 565 570

<210> 490
 <211> 127
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0488

 <400> 490
 Arg Lys Leu Pro Thr Cys Phe Ala Val Asn Val Thr Arg Ser Arg Asp
 1 5 10 15
 His Met Thr Val Phe Lys Gln Ile Ile Asp Gly Leu Ile Asp Cys Glu
 20 25 30
 Lys Val Phe Glu Asn Glu Asn Phe Ile Ala Ile Lys Asp Arg Phe Pro
 35 40 45
 Gln Ala Pro Val His Leu Leu Ile Ile Pro Lys Lys Pro Ile Pro Arg
 50 55 60
 Phe Gln Asp Ile Pro Gly Asp Glu Met Ile Leu Met Ala Glu Ala Gly
 65 70 75 80
 Lys Ile Val Gln Glu Leu Ala Ala Glu Phe Gly Ile Ala Asp Gly Tyr
 85 90 95
 Arg Val Val Ile Asn Asn Gly Ala Glu Gly Gly Gln Ala Val Phe His
 100 105 110
 Leu His Ile His Leu Leu Gly Gly Arg Pro Leu Gly Ala Ile Ala
 115 120 125

<210> 491
 <211> 314
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0489

 <400> 491
 Arg Ile Val Phe Ala Ile Glu Asn Tyr Phe Ser Leu Val Thr Met Glu
 1 5 10 15
 Asp Trp Leu Arg Arg Ile Val Gly Met Gln Ile Pro Arg Ser Ile Gly
 20 25 30

Thr His Asp Gly Ser Phe His Ala Asp Glu Val Thr Ala Cys Ala Leu
 35 40 45
 Leu Ile Ile Phe Asp Leu Val Asp Glu Asn Lys Ile Ile Arg Ser Arg
 50 55 60
 Asp Pro Val Val Leu Ser Lys Cys Glu Tyr Val Cys Asp Val Gly Gly
 65 70 75 80
 Val Tyr Ser Ile Glu Asn Lys Arg Phe Asp His His Gln Val Ser Tyr
 85 90 95
 Asp Gly Ser Trp Ser Ser Ala Gly Met Ile Leu His Tyr Leu Lys Glu
 100 105 110
 Phe Gly Tyr Met Asp Cys Glu Glu Tyr His Phe Leu Asn Asn Thr Leu
 115 120 125
 Val His Gly Val Asp Glu Gln Asp Asn Gly Arg Phe Phe Ser Lys Glu
 130 135 140
 Gly Phe Cys Ser Phe Ser Asp Ile Ile Lys Ile Tyr Asn Pro Arg Glu
 145 150 155 160
 Glu Glu Glu Thr Asn Ser Asp Ala Asp Phe Ser Cys Ala Leu His Phe
 165 170 175
 Thr Ile Asp Phe Leu Cys Arg Leu Arg Lys Lys Phe Gln Tyr Asp Arg
 180 185 190
 Val Cys Arg Gly Ile Val Arg Glu Ala Met Glu Thr Glu Asp Met Cys
 195 200 205
 Leu Tyr Phe Asp Arg Pro Leu Ala Trp Gln Glu Asn Phe Phe Phe Leu
 210 215 220
 Gly Gly Glu Lys His Pro Ala Ala Phe Val Cys Phe Pro Ser Cys Asp
 225 230 235 240
 Gln Trp Ile Leu Arg Gly Ile Pro Pro Asn Leu Asp Arg Arg Met Asp
 245 250 255
 Val Arg Val Pro Phe Pro Glu Asn Trp Ala Gly Leu Leu Gly Lys Glu
 260 265 270
 Leu Ser Lys Val Ser Gly Ile Pro Gly Ala Val Phe Cys His Lys Gly
 275 280 285
 Leu Phe Leu Ser Val Trp Thr Asn Arg Glu Ser Cys Gln Arg Ala Leu
 290 295 300
 Arg Leu Thr Leu Gln Asp Arg Gly Ile Ile
 305 310

<210> 492

<211> 686

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0490

<400> 492

Ile Met Tyr Asn Leu Leu His Ala His His Asp Ala Ala Ser Pro Asp
 1 5 10 15
 Gly Arg Leu Val Ser His Leu Lys Lys Leu Ser Pro His Ile Tyr Glu
 20 25 30
 Gly Glu Val Leu Ile Glu Asn Ile Pro Ala Tyr Phe Leu Gly Phe His
 35 40 45
 Leu Pro Gln Gln Cys Ile Gln Val Asn Leu Lys Ser Ser Leu Ala Gln
 50 55 60
 Leu Gly Val Glu Ala Val Leu Asn His Leu Glu Leu Asn Lys Ala Arg
 65 70 75 80
 Lys Glu Ala Arg Leu His Val Leu Phe Met Ser Gln Asp Pro Ile Ala
 85 90 95
 Thr Ala Met Leu Glu Leu Leu Glu Pro Gly Ser Phe Val Cys Lys Leu
 100 105 110

Phe	Ala	Ala	Asp	Asp	Arg	Arg	Leu	Val	Arg	Ser	Pro	Cys	Tyr	Leu	Asn
		115					120					125			
Arg	Met	Phe	Thr	His	Thr	Asp	Arg	Thr	Gly	Ser	Pro	Leu	Leu	Arg	Phe
	130					135					140				
Gly	Lys	Lys	Leu	Glu	His	Phe	Ile	Thr	Leu	Glu	Ile	Ile	Asn	Asp	Arg
145					150					155					160
Leu	Val	Val	Phe	Leu	Pro	Ile	Leu	Pro	Gly	Thr	Ile	Cys	Tyr	Glu	Glu
			165						170					175	
Thr	Ile	Tyr	Gly	Phe	Leu	Pro	Leu	Met	Ser	Lys	Ser	Leu	Thr	Arg	Pro
			180					185					190		
His	Leu	Lys	Ile	Arg	Lys	Phe	Leu	Pro	Leu	Tyr	Gln	Met	Val	Thr	Asp
		195					200					205			
Arg	Pro	Pro	Val	Pro	Glu	Asp	His	Lys	Ile	Leu	Leu	Ile	Lys	Thr	Glu
	210					215					220				
Pro	Leu	His	Ile	Arg	Thr	Val	Phe	Ala	Arg	Val	Val	Gln	Asp	Leu	Leu
225					230					235					240
Pro	Gln	Gly	Leu	Arg	His	Thr	Ala	Ala	Asp	Ile	Leu	Glu	Pro	Thr	Thr
			245						250					255	
Gln	Glu	Ser	Gly	Asp	Ile	Tyr	Glu	Phe	Tyr	Gly	Ser	Thr	Ser	Glu	Pro
			260					265					270		
Ile	Glu	Arg	Ile	Pro	Leu	Glu	Phe	Phe	Thr	Leu	Glu	Pro	Tyr	Lys	Glu
		275					280					285			
His	Ser	Phe	Phe	Phe	Tyr	Arg	Asp	Met	Leu	Gln	Glu	Thr	Leu	Glu	Ser
	290					295					300				
Pro	Gln	Glu	Val	Phe	Arg	Val	Phe	Glu	Ser	Ile	Pro	Glu	Gly	Glu	Asp
305					310					315					320
Gln	Ala	Ala	Met	Phe	Ile	Ser	Lys	Gly	Ser	Glu	Leu	Leu	Glu	Leu	Ser
			325						330					335	
Gln	Asp	Ser	Trp	Ile	Ile	Lys	Pro	Arg	Ile	Ser	Pro	Ser	Asp	Glu	Arg
			340					345					350		
His	Ala	Arg	Glu	Ile	Gln	Lys	His	Ile	Glu	Asp	Gln	Pro	Cys	Phe	Pro
		355					360					365			
Phe	Leu	Lys	Ala	Met	Glu	Thr	Asp	His	Ile	Thr	Ser	Gln	Gly	Val	Leu
	370					375					380				
Phe	Ser	Arg	Tyr	Phe	Pro	Ser	Ala	Ser	Leu	Lys	Gly	Met	Phe	Leu	Ser
385					390					395					400
Asn	Tyr	Ser	Arg	Tyr	Tyr	Leu	Gln	His	Ile	Tyr	Phe	Gln	Ile	Pro	Ser
			405						410					415	
Pro	Thr	Ser	Gly	Glu	Phe	Phe	Ser	Asn	Arg	Asp	Arg	Ser	Phe	Leu	Leu
			420					425					430		
Asp	Leu	Tyr	Phe	Ala	Gly	Ile	Ser	Val	Phe	Trp	Ala	Asp	Leu	Glu	Ser
		435					440					445			
Lys	Arg	Leu	Leu	Gln	Tyr	Ile	Lys	Arg	Arg	Asn	Lys	Asp	Val	Gly	Met
450						455					460				
Phe	Val	Pro	Lys	His	Gln	Ala	Glu	Gln	Phe	Ala	Gln	Ser	Tyr	Phe	Ile
465					470					475					480
Gly	Ile	His	Gly	Ser	Cys	Leu	Ile	Ala	Gly	Asp	Tyr	Asp	Glu	Phe	Leu
			485						490					495	
Arg	Glu	Leu	Leu	Thr	Gly	Met	His	Thr	Leu	Ser	Gln	Gln	Phe	Thr	Ile
			500					505					510		
Pro	Glu	Phe	Pro	Pro	Gln	Thr	Pro	Leu	Ala	Ile	Leu	Thr	Gly	Gly	Gly
		515					520					525			
Ser	Gly	Ala	Met	Glu	Leu	Ala	Asn	Arg	Val	Ala	Thr	Glu	Leu	Ser	Ile
	530					535					540				
Leu	Ser	Cys	Gly	Asn	Leu	Ile	Ser	Leu	Asp	Thr	Thr	Asn	Ala	Tyr	Val
545					550					555					560
Glu	Ala	Lys	Met	Ser	Tyr	Ala	Ile	Pro	Asp	Leu	Leu	Glu	Arg	Gln	Ala
			565						570					575	
Asp	Phe	His	Val	Asp	Leu	Ala	Val	Phe	Val	Ile	Gly	Gly	Met	Gly	Thr
			580					585					590		

Asp	Phe	Glu	Leu	Leu	Leu	Glu	Leu	Ile	Ser	Leu	Lys	Thr	Gly	Lys	Lys
		595					600					605			
Ala	Leu	Val	Pro	Val	Phe	Leu	Ile	Gly	Pro	Val	Asp	Tyr	Trp	Lys	Ser
	610					615					620				
Lys	Ile	Thr	Ala	Leu	Tyr	Asn	Ser	Asn	His	Ala	Val	Gly	Thr	Ile	Arg
625					630					635					640
Gly	Ser	Glu	Trp	Val	His	Asn	Cys	Leu	Phe	Cys	Leu	Ser	Ser	Ala	Lys
				645					650					655	
Ala	Gly	Ile	Ala	Ile	Phe	Arg	Arg	Tyr	Leu	Asn	His	Thr	Leu	Pro	Ile
			660					665					670		
Gly	Pro	Glu	His	Pro	Val	Pro	Glu	Asp	Gly	Phe	Val	Ile	Val		
		675					680					685			

<210> 493

<211> 420

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0491

<400> 493

Ile	Leu	Ser	Ser	Leu	Tyr	Thr	Val	Phe	Thr	Met	Lys	Thr	Ala	Phe	His
1				5					10					15	
Ser	Cys	Tyr	Ser	Trp	Phe	Cys	Trp	Leu	Phe	Ser	Phe	Leu	Val	Leu	Phe
			20					25					30		
Val	Gly	Gly	Ile	Ala	Gly	Gly	Glu	Pro	Leu	Cys	Pro	Asp	Cys	Lys	Tyr
		35					40					45			
Glu	Thr	Lys	Ser	Val	Leu	Arg	Ser	Asp	Gln	Leu	Pro	Asp	His	Leu	Trp
	50					55					60				
Asn	Tyr	Glu	Asn	Asp	Cys	Tyr	Leu	Thr	Gly	Tyr	Val	Gln	Ser	Leu	Leu
65					70					75					80
Asp	Met	His	Phe	Leu	Asp	Ser	Arg	Thr	Gln	Val	Val	Ile	Glu	Lys	Asn
			85						90					95	
Arg	Ala	Tyr	Leu	Phe	Ser	Leu	Pro	Val	Asp	Ser	Ser	Leu	Ser	Glu	Ala
			100					105					110		
Ile	Thr	Asn	Phe	Val	Arg	Asp	Leu	Pro	Phe	Ile	Cys	Ala	Val	Glu	Ile
		115					120					125			
Cys	Glu	Arg	Pro	Tyr	Gly	Glu	Cys	Ile	Thr	Arg	Ser	Ser	Ala	Glu	Arg
	130					135					140				
Pro	Leu	Leu	Pro	Lys	Glu	Lys	Thr	Leu	Gly	Met	Pro	Ile	Phe	Cys	Gly
145					150					155					160
Lys	Glu	Gly	Val	Trp	Leu	Pro	Gln	Asn	Thr	Ile	Leu	Phe	Ser	Pro	Leu
			165						170					175	
Ile	Ala	Asp	Pro	Arg	Gln	Val	Thr	Asn	Ser	Ala	Gly	Ile	Arg	Phe	Asn
		180						185					190		
Glu	Lys	Val	Val	Gly	Asn	Arg	Val	Gly	Ala	Thr	Ile	Phe	Gly	Gly	Asp
		195					200					205			
Phe	Ile	Leu	Leu	Arg	Leu	Phe	Asp	Val	Ser	Arg	Phe	His	Val	Asp	Cys
	210					215					220				
Asp	Phe	Gly	Ile	Gln	Gly	Gly	Val	Phe	Ser	Val	Phe	Asp	Leu	Asp	His
225				230						235					240
Pro	Glu	Ser	Cys	Met	Val	Asn	Ser	Asp	Phe	Phe	Val	Ala	Gly	Leu	Trp
			245						250					255	
Ser	Gly	Ala	Ile	Asp	Lys	Trp	Ser	Phe	Arg	Phe	Arg	Leu	Trp	His	Leu
		260						265					270		
Ser	Ser	His	Leu	Gly	Asp	Glu	Phe	Ile	Leu	Thr	His	Pro	Asn	Phe	Pro
		275					280					285			
Arg	Phe	Asn	Leu	Ser	Asp	Glu	Gly	Val	Asp	Leu	Phe	Ile	Ser	Phe	Arg
	290					295					300				

Tyr Thr Pro Gln Ile Arg Leu Tyr Gly Gly Cys Gly Tyr Ile Val Ser
 305 310 315 320
 Arg Asp Leu Thr Phe Pro Glu Arg Pro Phe Tyr Cys Glu Trp Gly Ala
 325 330 335
 Glu Leu Arg Pro Phe Gly Leu Arg Glu Gly Asn Leu His Ala Gln Pro
 340 345 350
 Ile Phe Ala Met His Phe Arg Cys Trp Glu Glu Gln Lys Phe Gly Leu
 355 360 365
 Asp Gln Ser Tyr Ile Leu Gly Met Glu Trp Ala Lys Phe Gln Glu Ile
 370 375 380
 Gly Arg Lys Ile Arg Ala Val Leu Glu Tyr His Gln Gly Phe Ser Lys
 385 390 395 400
 Glu Gly Gln Phe Ile Arg Glu Pro Cys Asn Tyr Tyr Gly Phe Arg Leu
 405 410 415
 Thr Tyr Gly Phe
 420

<210> 494
 <211> 54
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0492

<400> 494
 Leu Phe Ser Leu Ile Phe Pro Ile Cys Glu Glu Arg Asn Ser Gln Gln
 1 5 10 15
 Thr Tyr Lys His Leu His Val Glu Ser Ala Cys Phe Leu Leu Glu Ser
 20 25 30
 Pro Leu Lys Ile His Trp Ser Ser Pro Tyr Gly Phe Pro Pro Phe Tyr
 35 40 45
 Arg Arg Asp Leu Lys Leu
 50

<210> 495
 <211> 96
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0493

<400> 495
 Ser Lys Thr Glu Gly Ser His Ser Lys Thr Ser Lys Gly Phe Val Gly
 1 5 10 15
 Arg Phe Val Gln Trp Ile Arg Thr Phe Thr Gly Arg Gly Ser Lys Lys
 20 25 30
 Arg Ser Pro Ser Ser Phe Ser Pro Thr His Pro Tyr Ile Arg Leu Arg
 35 40 45
 Thr Tyr Thr Arg Ser Pro Lys Gln Ser Gly Val Glu Arg Lys Gln Glu
 50 55 60
 Asp Ala Glu Thr Ser Phe Ile Glu Thr Pro Lys Gly Ile Leu Lys Lys
 65 70 75 80
 Pro Gly Asn Lys Asp Pro Lys Gly Lys His Val His Trp Lys Asp Ser
 85 90 95

<210> 496
 <211> 75
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0494

<400> 496

Val	Ile	Met	Ile	Arg	Val	Asn	Pro	Tyr	Gly	Ser	Tyr	Arg	Gly	Arg	Asn
1			5						10					15	
Pro	Ser	Pro	Glu	Asp	Gly	Lys	Lys	Asp	Val	Pro	Leu	Ser	Gly	Asn	Ser
			20					25					30		
Arg	Leu	His	Arg	Arg	Gly	Gly	Ile	Arg	Arg	Lys	His	Lys	Ser	Ala	Ser
		35					40					45			
Val	Gly	Val	Thr	Ser	Gly	Ser	Lys	Thr	Gly	Lys	Ala	Ser	Leu	Glu	Lys
	50					55					60				
Lys	Val	Lys	Gly	Ile	Ser	Glu	Ala	His	Phe	Lys					
65					70					75					

<210> 497

<211> 429

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0495

<400> 497

Arg	Arg	Leu	Lys	Lys	Asn	Gln	Lys	Met	Ala	Ile	Gln	Lys	Ala	Gly	Ala
1			5					10						15	
Phe	Leu	Arg	Cys	Leu	Pro	Ser	Glu	Ser	Arg	Pro	Tyr	Leu	Glu	His	Ala
			20					25					30		
Met	Arg	Arg	Asn	Pro	His	Phe	Ser	Leu	Leu	Lys	Pro	Gln	Tyr	Leu	Phe
		35					40					45			
Ser	Glu	Ile	Ser	Lys	Lys	Leu	Ala	Gln	Phe	Arg	Lys	Glu	Asn	Pro	Glu
	50					55					60				
Ile	Ser	Val	Ile	Asp	Leu	Ser	Ile	Gly	Asp	Thr	Thr	Gln	Pro	Leu	Cys
65					70				75					80	
Arg	Ser	Ile	Thr	Gln	Ala	Ile	Lys	Glu	Phe	Cys	Val	Ser	Gln	Glu	Lys
			85						90					95	
Gln	Glu	Thr	Tyr	Arg	Gly	Tyr	Gly	Pro	Glu	Thr	Gly	Leu	Glu	Lys	Leu
			100					105					110		
Arg	Thr	Lys	Ile	Ala	Ser	Glu	Val	Tyr	Glu	Asn	Arg	Ile	Ser	Pro	Glu
		115					120					125			
Glu	Ile	Phe	Ile	Ser	Asp	Gly	Ala	Lys	Pro	Asp	Ile	Phe	Arg	Leu	Phe
	130					135					140				
Ser	Phe	Phe	Gly	Ser	Glu	Lys	Thr	Leu	Gly	Leu	Gln	Asp	Pro	Val	Tyr
145					150				155					160	
Pro	Ala	Tyr	Arg	Asp	Ile	Ala	His	Ile	Thr	Gly	Ile	Arg	Asp	Ile	Ile
			165						170					175	
Pro	Leu	Ala	Cys	Arg	Lys	Glu	Thr	Gly	Phe	Ile	Pro	Glu	Leu	Pro	Asn
			180					185					190		
Gln	Gln	Ser	Leu	Asp	Ile	Leu	Cys	Leu	Cys	Tyr	Pro	Asn	Asn	Pro	Thr
		195					200					205			
Gly	Thr	Val	Leu	Thr	Phe	Gln	Gln	Leu	Gln	Ala	Leu	Val	Asn	Tyr	Ala
	210					215					220				
Asn	Gln	His	Gly	Thr	Val	Leu	Ile	Phe	Asp	Ala	Ala	Tyr	Ser	Ala	Phe
225					230					235				240	
Val	Ser	Asp	Pro	Ser	Leu	Pro	Lys	Ser	Ile	Phe	Glu	Ile	Pro	Glu	Ala
			245						250					255	
Lys	Tyr	Cys	Ala	Ile	Glu	Ile	Asn	Ser	Phe	Ser	Lys	Ser	Leu	Gly	Phe
			260					265					270		
Thr	Gly	Met	Arg	Leu	Ala	Trp	Asn	Val	Ile	Pro	Lys	Glu	Leu	Thr	Tyr
		275					280						285		

Asp Asn Asn Glu Pro Met Ile Asn Asp Trp Lys Arg Leu Phe Ala Thr
 290 295 300
 Thr Phe Asn Gly Ala Ser Leu Leu Met Gln Glu Ala Gly Tyr Tyr Gly
 305 310 315 320
 Leu Asp Leu Phe Pro Thr Pro Pro Ala Ile Ser Leu Tyr Leu Thr Asn
 325 330 335
 Ala Gln Lys Leu Lys Lys Ser Leu Glu Thr Ala Gly Phe Ser Val His
 340 345 350
 Gly Gly Asp His Ala Pro Tyr Leu Trp Val Glu Leu Pro Glu Gly Ile
 355 360 365
 Ser Asp Glu Glu Ala Phe Asp Phe Phe Leu His Gln Tyr His Ile Ala
 370 375 380
 Val Thr Pro Gly His Gly Phe Gly Ser Cys Gly Gln Gly Phe Val Arg
 385 390 395 400
 Phe Ser Ala Leu Thr Gln Pro Gln Asn Ile Ala Leu Ala Cys Asp Arg
 405 410 415
 Leu Cys Thr Ala Ser Leu Lys Glu Thr Met Val Leu Ala
 420 425

<210> 498
 <211> 354
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0496

<400> 498
 Pro Pro Leu Tyr Arg Phe Thr Lys Arg Asn Asp Gly Ser Cys Met Thr
 1 5 10 15
 Ile Leu Arg Lys Leu Ser Gln Tyr Leu Phe Phe Phe Ser Leu Phe Cys
 20 25 30
 Ser Phe Ile Tyr Val Ala Thr Cys Gly Ser Gln Pro Asp Ser Val Ser
 35 40 45
 Ser Pro Lys Ile Ala Ile Phe Leu Ser Phe Pro His Pro Leu Leu Glu
 50 55 60
 Asp Cys Ser Lys Ser Cys Ile Glu Thr Leu Lys Asp Phe Glu Asn Leu
 65 70 75 80
 Pro Glu Ile Val Val Leu Asn Ala Glu Asp Ser Ile Val Lys Ala Arg
 85 90 95
 Lys Ile Ala Arg Ser Leu His Thr Asp Lys Asn Val Val Ala Ile Val
 100 105 110
 Thr Leu Gly Thr Ile Ala Thr Lys Val Met Ser His Ile Glu Thr Gln
 115 120 125
 Lys Pro Val Ile Tyr Ala Ala Val Pro Asp Arg Glu Ser Leu Thr Leu
 130 135 140
 Pro Lys Asn Thr Met Asn Ile Tyr Gly Val Asn Asp Thr Leu Asp Ile
 145 150 155 160
 Asn Gln Tyr Cys Phe Ala Ile Gln Ala Val Ala Thr Asn Ala Gln Ser
 165 170 175
 Ile Val Tyr Leu Lys Pro Ser Glu Pro Phe Pro Ser Asp Leu Gln Lys
 180 185 190
 Glu Ile Val Lys Lys Leu His Ala Ser Gly Ile Glu Val Ile Glu Ile
 195 200 205
 Ser Ile Thr Ser Ser Thr Phe Lys Thr Arg Ile Arg Gln Ala Ile Asp
 210 215 220
 Lys Arg Pro Ser Ala Ile Phe Ile Pro Leu Ser Pro Leu Ser His Lys
 225 230 235 240
 Glu Gly Thr Ala Phe Leu Gln Glu Ile Leu Lys Glu Lys Ile Pro Ile
 245 250 255

Ile Thr Asp Asp Thr Ser Leu Ile Ser Glu Gly Ala Cys Ile Ala Cys
260 265 270
Ser Val Asp Tyr Lys Lys Ser Gly Lys Gln Ile Ala Lys Ile Val His
275 280 285
His Leu Leu Tyr Asn Asn His Asp Val Asp Ser Leu Arg Lys Ile Ile
290 295 300
Ala Gln Arg Leu Ser Pro Thr Thr Thr Phe Asn Glu Asp Ile Ile Lys
305 310 315 320
Tyr Leu Gly Ile Lys Leu His Lys Thr Glu Arg Asn Gln Phe Leu Ser
325 330 335
Phe Lys Ser Lys Lys Leu Glu Lys Ser Glu Lys Gly Lys Asn Val Ala
340 345 350
Val Ser

<210> 499
<211> 96
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0497

<400> 499
Ile Phe Gln Arg Val Val Leu Asp Asp Ser Trp Ile Leu Glu Val Lys
1 5 10 15
Val Thr Pro Lys Ala Lys Glu Asn Lys Ile Val Gly Phe Asp Gly Gln
20 25 30
Ala Leu Lys Val Arg Val Thr Glu Pro Pro Glu Lys Gly Lys Ala Asn
35 40 45
Asp Ala Val Ile Ser Leu Leu Ala Lys Ala Leu Ser Leu Pro Lys Arg
50 55 60
Asp Val Thr Leu Ile Ala Gly Glu Thr Ser Arg Lys Lys Lys Phe Leu
65 70 75 80
Leu Pro Asn Arg Val Gln Asp Ile Ile Phe Ser Leu His Ile Asp Val
85 90 95

<210> 500
<211> 326
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0498

<400> 500
Tyr Cys Arg Leu Arg Arg Ala Pro Phe Met Asn Arg Arg Lys Ala Arg
1 5 10 15
Trp Val Val Ala Leu Phe Ala Met Thr Ala Leu Ile Ser Val Gly Cys
20 25 30
Cys Pro Trp Ser Gln Ala Lys Ser Arg Cys Ser Ile Asp Lys Tyr Ile
35 40 45
Pro Val Val Asn Arg Leu Leu Glu Val Cys Gly Leu Pro Glu Ala Glu
50 55 60
Asn Val Glu Asp Leu Ile Glu Ser Ser Ser Ala Trp Val Leu Thr Pro
65 70 75 80
Glu Glu Arg Phe Ser Gly Glu Leu Val Ser Ile Cys Gln Val Lys Asp
85 90 95
Glu His Ala Phe Tyr Asn Asp Leu Ser Leu Leu His Met Thr Gln Ala
100 105 110

Val	Pro	Ser	Tyr	Ser	Ala	Thr	Tyr	Asp	Cys	Ala	Val	Val	Phe	Gly	Gly
		115					120					125			
Pro	Leu	Pro	Ala	Leu	Arg	Gln	Arg	Leu	Asp	Phe	Leu	Val	Arg	Glu	Trp
	130					135					140				
Gln	Arg	Gly	Val	Arg	Phe	Lys	Lys	Ile	Val	Phe	Leu	Cys	Gly	Glu	Arg
145					150					155					160
Gly	Arg	Tyr	Gln	Ser	Ile	Glu	Glu	Gln	Glu	His	Phe	Phe	Asp	Ser	Arg
				165					170					175	
Tyr	Asn	Pro	Phe	Pro	Thr	Glu	Glu	Asn	Trp	Glu	Ser	Gly	Asn	Arg	Val
			180					185					190		
Thr	Pro	Ser	Ser	Glu	Glu	Glu	Ile	Ala	Lys	Phe	Val	Trp	Met	Gln	Met
		195					200						205		
Leu	Leu	Pro	Arg	Ala	Trp	Arg	Asp	Ser	Thr	Ser	Gly	Val	Arg	Val	Thr
	210					215					220				
Phe	Leu	Leu	Ala	Lys	Pro	Glu	Glu	Asn	Arg	Val	Val	Ala	Asn	Arg	Lys
225					230					235					240
Asp	Thr	Leu	Leu	Leu	Phe	Arg	Ser	Tyr	Gln	Glu	Ala	Phe	Pro	Gly	Arg
				245					250					255	
Val	Leu	Phe	Val	Ser	Ser	Gln	Pro	Phe	Ile	Gly	Leu	Asp	Ala	Cys	Arg
			260					265					270		
Val	Gly	Gln	Phe	Phe	Lys	Gly	Glu	Ser	Tyr	Asp	Leu	Ala	Gly	Pro	Gly
		275					280					285			
Phe	Ala	Gln	Gly	Val	Leu	Lys	Tyr	His	Trp	Ala	Pro	Arg	Ile	Cys	Leu
	290					295				300					
His	Thr	Leu	Ala	Glu	Trp	Leu	Lys	Glu	Thr	Asn	Gly	Cys	Leu	Asn	Ile
305					310					315					320
Ser	Glu	Gly	Cys	Phe	Gly										
				325											

<210> 501

<211> 400

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0499

<400> 501

Leu	Ser	Val	Tyr	Leu	Leu	Ile	Phe	Tyr	Phe	Cys	Asn	Cys	Ser	Thr	Met
1				5					10					15	
Ser	Ser	Val	Asn	Gln	Ser	Ser	Gly	Thr	Pro	Asn	Pro	Glu	Glu	Val	Thr
			20					25					30		
Ser	Pro	Glu	Ser	Thr	Glu	Glu	Asn	Lys	Asn	Val	Val	Ser	Ser	Asp	Glu
		35					40					45			
Ala	Gln	Ala	Thr	His	Ala	Val	Ala	Leu	Pro	Ile	Val	Thr	Gln	Leu	Ser
	50					55				60					
Leu	Pro	Glu	Gly	Val	Gly	Thr	Ser	Ser	Glu	Glu	Thr	Ala	Ser	Asn	Pro
65					70					75				80	
Arg	Val	Asp	Glu	Ile	Val	Ala	Glu	Val	Ser	Ser	Ser	Arg	Ala	Val	Ala
				85					90					95	
Asp	Gln	Ile	Ser	Ser	Leu	Val	Glu	Arg	Val	Gly	Glu	Leu	Leu	Asp	Asp
			100					105					110		
Leu	Lys	Gly	Ala	Gln	Ser	Leu	Phe	Thr	Ser	Phe	Gln	Ser	Glu	Leu	Lys
		115					120					125			
Asn	Cys	Leu	Pro	Ala	Trp	Lys	Ser	Ser	Thr	Arg	Arg	Leu	Glu	Thr	Arg
		130				135					140				
Gly	Ala	Gly	Asp	Asn	Ala	Asp	Ile	Ala	Arg	Leu	Glu	Leu	Phe	Arg	Ser
145					150					155					160
Asp	Tyr	Glu	Ala	Val	Leu	Gly	His	Ala	Asn	Gln	Phe	His	Gly	Lys	Ala
				165					170					175	

<400> 503

Ile	Leu	Leu	Thr	Phe	Ser	Gly	Ser	Phe	Pro	Ile	Met	Leu	Ser	Val	Thr
1				5					10					15	
Ile	Val	Leu	Val	Gly	Leu	Glu	Met	Ala	Arg	Ser	Lys	Val	Ser	Lys	Arg
			20					25						30	
Asp	Ser	Lys	Ile	Leu	Asp	Ile	Leu	Phe	Ala	Thr	Thr	Glu	Leu	Tyr	Leu
		35					40					45			
Lys	Thr	Gly	Gln	Pro	Val	Gly	Ser	Lys	Thr	Leu	Lys	Glu	Ser	Phe	Cys
	50					55					60				
Ser	Asp	Leu	Ser	Thr	Ala	Thr	Ile	Arg	Asn	Tyr	Phe	Ala	Glu	Leu	Glu
65					70					75					80
Ala	Glu	Gly	Phe	Leu	Lys	Lys	Asn	His	Thr	Ser	Gly	Gly	Arg	Ile	Pro
			85						90					95	
Thr	Asp	Leu	Ala	Leu	Arg	His	Tyr	Val	Asp	His	Gln	Glu	Glu	Cys	Pro
			100					105						110	
Glu	Ala	Glu	Ile	Ser	Ala	Pro	Ile	Phe	Asp	Lys	Ile	Ser	Gln	Leu	Pro
		115					120							125	
Ser	Glu	Ser	Arg	Asn	Ile	Ile	Lys	Asp	Leu	Gln	Lys	Ala	Thr	Glu	Leu
	130					135					140				
Leu	Gly	Glu	Ile	Leu	Asp	Leu	Pro	Thr	Phe	Phe	Ser	Ser	Pro	Arg	Phe
145					150					155					160
Glu	Asn	Asp	Ser	Val	Thr	Asn	Ile	Gln	Ile	Thr	Gln	Val	Asp	Lys	Gln
				165					170					175	
Arg	Ala	Val	Thr	Ile	Leu	Ser	Thr	Glu	Phe	Gly	Gln	Ile	Phe	Thr	Asp
			180					185						190	
Thr	Leu	Trp	Leu	Pro	Glu	Ala	Cys	Asp	Thr	Leu	Ser	Ile	Lys	Arg	Ile
		195					200						205		
Glu	Lys	Phe	Leu	Gln	Asn	Tyr	Ile	Arg	Lys	Leu	Pro	Thr	Asn	Glu	Glu
	210					215					220				
Leu	Ser	Lys	Lys	Glu	Glu	His	Leu	Ser	Met	Ser	Leu	Tyr	Asn	Glu	Val
225					230					235					240
Val	Val	Arg	Tyr	Leu	Thr	Arg	Tyr	Cys	Asn	Phe	Ser	Glu	Glu	Asp	Leu
			245						250					255	
Tyr	Gln	Thr	Gly	Met	Ser	Lys	Leu	Leu	Lys	Tyr	Glu	Ala	Phe	Lys	Asp
		260						265						270	
Pro	Glu	Val	Leu	Ala	Leu	Gly	Leu	Ser	Leu	Phe	Glu	Asn	Arg	Arg	Gln
		275					280						285		
Met	Cys	Glu	Leu	Leu	Asn	Ile	Gly	Met	His	Lys	Gly	Arg	Ala	Thr	Ala
	290					295					300				
Phe	Ile	Gly	Lys	Glu	Leu	Ser	Asp	Ile	Leu	Gly	Thr	Ser	Asn	Pro	Gly
305					310					315					320
Cys	Ser	Val	Ile	Thr	Ile	Pro	Tyr	Tyr	Met	Asn	Arg	Ser	Pro	Leu	Gly
			325						330					335	
Ala	Leu	Gly	Ile	Leu	Gly	Pro	Ile	Asn	Leu	Pro	Tyr	Lys	Glu	Ala	Leu
		340						345					350		
Pro	Leu	Leu	Lys	Leu	Phe	Ala	Asn	Lys	Ile	Asn	Glu	Thr	Leu	Thr	Gln
		355					360						365		
Ser	Phe	Tyr	Lys	Phe	Lys	Leu	Ser	Phe	Arg	Arg	Pro	Leu	Thr	Ser	Asn
	370					375					380				
Cys	Lys	Leu	Ser	Asn	Glu	Pro	Ile	Leu	Arg	Thr	Glu	Tyr	Ser	Ser	Ile
385				390						395					400
Lys	Leu	Leu	Pro	Ser	Lys	Glu	Thr	Leu							
				405											

<210> 504

<211> 187

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0502

<400> 504

Gly	Asp	Val	Met	Thr	Asp	Thr	Pro	Pro	Glu	Asn	Glu	Glu	Gln	His	Glu
1				5					10					15	
Ser	Asn	Val	Gln	Asn	Glu	Asn	Glu	Val	Glu	His	Leu	Gln	Gln	Glu	Ile
			20					25					30		
Val	Thr	Leu	Lys	Thr	Glu	Leu	Lys	Glu	Lys	Asn	Asp	Lys	Tyr	Leu	Met
		35					40					45			
Ala	Leu	Ala	Glu	Ser	Glu	Asn	Ser	Arg	Lys	Arg	Leu	Gln	Lys	Glu	Arg
		50				55					60				
Gln	Glu	Leu	Met	Gln	Tyr	Ala	Leu	Glu	Asn	Thr	Leu	Ile	Asp	Phe	Leu
65					70					75					80
Asn	Pro	Ile	Glu	Ser	Met	Glu	Lys	Ala	Leu	Gly	Phe	Ala	Thr	Gln	Met
				85					90					95	
Ser	Asp	Asp	Val	Lys	Asn	Trp	Ala	Leu	Gly	Phe	Asn	Met	Ile	Leu	Asn
			100					105					110		
Gln	Phe	Lys	Gln	Ile	Phe	Glu	Glu	Lys	Gly	Ile	Ile	Glu	Tyr	Ser	Ser
		115					120					125			
Ile	Gly	Gln	Lys	Phe	Asn	Pro	Phe	Leu	His	Glu	Ala	Val	Gln	Thr	Glu
		130				135					140				
Glu	Thr	Ser	Glu	Val	Pro	Glu	Gly	Thr	Ile	Leu	Glu	Glu	Phe	Ala	Lys
145					150					155					160
Gly	Tyr	Lys	Ile	Gly	Glu	Arg	Pro	Ile	Arg	Val	Ala	Lys	Val	Lys	Val
				165					170					175	
Ala	Lys	Ala	Pro	Thr	Pro	Lys	Glu	Asn	Lys	Glu					
			180					185							

<210> 505

<211> 663

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0503

<400> 505

Val	Pro	Asn	Met	Ser	Glu	His	Lys	Lys	Ser	Ser	Lys	Ile	Ile	Gly	Ile
1				5					10					15	
Asp	Leu	Gly	Thr	Thr	Asn	Ser	Cys	Val	Ser	Val	Met	Glu	Gly	Gly	Gln
			20					25					30		
Ala	Lys	Val	Ile	Thr	Ser	Ser	Glu	Gly	Thr	Arg	Thr	Thr	Pro	Ser	Ile
		35					40					45			
Val	Ala	Phe	Lys	Gly	Asn	Glu	Lys	Leu	Val	Gly	Ile	Pro	Ala	Lys	Arg
	50					55					60				
Gln	Ala	Val	Thr	Asn	Pro	Glu	Lys	Thr	Leu	Gly	Ser	Thr	Lys	Arg	Phe
65					70					75					80
Ile	Gly	Arg	Lys	Tyr	Ser	Glu	Val	Ala	Ser	Glu	Ile	Gln	Thr	Val	Pro
				85					90					95	
Tyr	Thr	Val	Thr	Ser	Gly	Ser	Lys	Gly	Asp	Ala	Val	Phe	Glu	Val	Asp
			100					105					110		
Gly	Lys	Gln	Tyr	Thr	Pro	Glu	Glu	Ile	Gly	Ala	Gln	Ile	Leu	Met	Lys
		115					120					125			
Met	Lys	Glu	Thr	Ala	Glu	Ala	Tyr	Leu	Gly	Glu	Thr	Val	Thr	Glu	Ala
		130				135					140				
Val	Ile	Thr	Val	Pro	Ala	Tyr	Phe	Asn	Asp	Ser	Gln	Arg	Ala	Ser	Thr
145					150					155					160
Lys	Asp	Ala	Gly	Arg	Ile	Ala	Gly	Leu	Asp	Val	Lys	Arg	Ile	Ile	Pro
				165					170					175	
Glu	Pro	Thr	Ala	Ala	Ala	Leu	Ala	Tyr	Gly	Ile	Asp	Lys	Val	Gly	Asp
			180					185					190		
Lys	Lys	Ile	Ala	Val	Phe	Asp	Leu	Gly	Gly	Gly	Thr	Phe	Asp	Ile	Ser
			195				200					205			

Ile Leu Glu Ile Gly Asp Gly Val Phe Glu Val Leu Ser Thr Asn Gly
 210 215 220
 Asp Thr Leu Leu Gly Gly Asp Asp Phe Asp Glu Val Ile Ile Lys Trp
 225 230 235 240
 Met Ile Glu Glu Phe Lys Lys Gln Glu Gly Ile Asp Leu Ser Lys Asp
 245 250 255
 Asn Met Ala Leu Gln Arg Leu Lys Asp Ala Ala Glu Lys Ala Lys Ile
 260 265 270
 Glu Leu Ser Gly Val Ser Ser Thr Glu Ile Asn Gln Pro Phe Ile Thr
 275 280 285
 Met Asp Ala Gln Gly Pro Lys His Leu Ala Leu Thr Leu Thr Arg Ala
 290 295 300
 Gln Phe Glu Lys Leu Ala Ala Ser Leu Ile Glu Arg Thr Lys Ser Pro
 305 310 315 320
 Cys Ile Lys Ala Leu Ser Asp Ala Lys Leu Ser Ala Lys Asp Ile Asp
 325 330 335
 Asp Val Leu Leu Val Gly Gly Met Ser Arg Met Pro Ala Val Gln Glu
 340 345 350
 Thr Val Lys Glu Leu Phe Gly Lys Glu Pro Asn Lys Gly Val Asn Pro
 355 360 365
 Asp Glu Val Val Ala Ile Gly Ala Ala Ile Gln Gly Gly Val Leu Gly
 370 375 380
 Gly Glu Val Lys Asp Val Leu Leu Leu Asp Val Ile Pro Leu Ser Leu
 385 390 395 400
 Gly Ile Glu Thr Leu Gly Gly Val Met Thr Thr Leu Val Glu Arg Asn
 405 410 415
 Thr Thr Ile Pro Thr Gln Lys Lys Gln Ile Phe Ser Thr Ala Ala Asp
 420 425 430
 Asn Gln Pro Ala Val Thr Ile Val Val Leu Gln Gly Glu Arg Pro Met
 435 440 445
 Ala Lys Asp Asn Lys Glu Ile Gly Arg Phe Asp Leu Thr Asp Ile Pro
 450 455 460
 Pro Ala Pro Arg Gly His Pro Gln Ile Glu Val Ser Phe Asp Ile Asp
 465 470 475 480
 Ala Asn Gly Ile Phe His Val Ser Ala Lys Asp Val Ala Ser Gly Lys
 485 490 495
 Glu Gln Lys Ile Arg Ile Glu Ala Ser Ser Gly Leu Gln Glu Asp Glu
 500 505 510
 Ile Gln Arg Met Val Arg Asp Ala Glu Ile Asn Lys Glu Glu Asp Lys
 515 520 525
 Lys Arg Arg Glu Ala Ser Asp Ala Lys Asn Glu Ala Asp Ser Met Ile
 530 535 540
 Phe Arg Ala Glu Lys Ala Ile Lys Asp Tyr Lys Glu Gln Ile Pro Glu
 545 550 555 560
 Thr Leu Val Lys Glu Ile Glu Glu Arg Ile Glu Asn Val Arg Asn Ala
 565 570 575
 Leu Lys Asp Asp Ala Pro Ile Glu Lys Ile Lys Glu Val Thr Glu Asp
 580 585 590
 Leu Ser Lys His Met Gln Lys Ile Gly Glu Ser Met Gln Ser Gln Ser
 595 600 605
 Ala Ser Ala Ala Ala Ser Ser Ala Ala Asn Ala Lys Gly Gly Pro Asn
 610 615 620
 Ile Asn Thr Glu Asp Leu Lys Lys His Ser Phe Ser Thr Lys Pro Pro
 625 630 635 640
 Ser Asn Asn Gly Ser Ser Glu Asp His Ile Glu Glu Ala Asp Val Glu
 645 650 655
 Ile Ile Asp Asn Asp Asp Lys
 660

<210> 506
 <211> 699
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0504

<400> 506
 Ala Thr Gln Phe Thr Ser Glu Thr Thr Gly Phe Leu Val Gln Cys Pro
 1 5 10 15
 Lys Leu Thr Gly Ala Gln Leu Leu Lys Lys Pro Lys Arg Lys Pro
 20 25 30
 Gly Arg Arg Thr Tyr Gly Lys Ser Leu Lys Ile Phe Ile Pro Gly Thr
 35 40 45
 Leu Phe Val His Ala Arg Lys Gly Phe Gly Phe Val Ser Pro Asp Asn
 50 55 60
 Pro Glu Glu Tyr Pro Phe Asp Ile Phe Val Pro Ala Arg Asp Leu Arg
 65 70 75 80
 Gly Ala Leu Asp Gly Asp His Val Ile Val Ser Val Leu Pro Tyr Pro
 85 90 95
 Arg Asp Gly Gln Lys Leu Lys Gly Thr Ile Ser Glu Val Leu Ala Arg
 100 105 110
 Gly Lys Thr Thr Leu Val Gly Thr Ile Thr Ser Leu Val Ser Pro Thr
 115 120 125
 Ser Ala Leu Ala Tyr Thr Ser Met Ser Gly Ser Gln Ser Leu Ile Pro
 130 135 140
 Val Glu Leu Leu Pro Gly Arg Thr Tyr Lys Ile Gly Asp Arg Ile Leu
 145 150 155 160
 Leu Ser Thr Pro Pro Trp Val Asp Lys Pro Gln Glu Gly Ala Ser Pro
 165 170 175
 Ala Leu Gln Met Leu Glu Phe Ile Gly His Ile Thr Asn Ala Lys Ala
 180 185 190
 Asp Phe Gln Ala Ile Gln Ala Glu Tyr Asn Leu Ala Glu Glu Phe Pro
 195 200 205
 Pro Glu Val Ile Glu Glu Ala Ser Leu Phe Ser Gln Lys His Ile Thr
 210 215 220
 Gln Val Leu His Ser Arg Lys Asp Leu Arg Asp Leu Leu Cys Phe Thr
 225 230 235 240
 Ile Asp Ser Ser Thr Ala Arg Asp Phe Asp Asp Ala Ile Ser Leu Thr
 245 250 255
 Tyr Asp His Asn Asn Asn Tyr Ile Leu Gly Val His Ile Ala Asp Val
 260 265 270
 Ser His Tyr Val Thr Pro His Ser His Leu Asp Lys Glu Ala Ala Lys
 275 280 285
 Arg Cys Asn Ser Thr Tyr Phe Pro Gly Lys Val Ile Pro Met Leu Pro
 290 295 300
 Ser Ala Leu Ser Asp Asn Leu Cys Ser Leu Lys Pro Asn Val Asp Arg
 305 310 315 320
 Leu Ala Val Ser Val Phe Met Thr Phe Thr Lys Ser Gly His Leu Ser
 325 330 335
 Asp Tyr Gln Ile Phe Arg Ser Val Ile Arg Ser Lys Tyr Arg Met Thr
 340 345 350
 Tyr Asp Glu Val Asp Asn Ile Ile Glu Lys Lys His Ser His Pro Leu
 355 360 365
 Ser Lys Ile Leu Asn Glu Met Ala Thr Leu Ser Lys Lys Phe Ser Asp
 370 375 380
 Ile Arg Glu Glu Arg Gly Cys Ile Arg Phe Val Leu Pro Ser Val Thr
 385 390 395 400
 Met Ser Leu Asp Asn Leu Gln Glu Pro Val Ala Leu Ile Glu Asn His
 405 410 415

Gln Thr Phe Ser His Lys Leu Ile Glu Glu Phe Met Leu Lys Ala Asn
 420 425 430
 Glu Val Val Ala Tyr His Ile Ser His Gln Gly Val Ser Leu Pro Phe
 435 440 445
 Arg Ser His Glu Pro Pro Asn Asp Glu Asn Leu Leu Ala Phe Gln Glu
 450 455 460
 Leu Ala Lys Asn Met Gly Phe Asp Ile Thr Phe Thr Pro Thr Gln Glu
 465 470 475 480
 Pro Asp Tyr Gln Tyr Leu Leu Gln Thr Thr Ser Ala Gly His Pro Leu
 485 490 495
 Glu Gln Val Leu His Ser Gln Phe Val Arg Ser Met Lys Thr Ala Ser
 500 505 510
 Tyr Ser Thr Glu Asn Lys Gly His Tyr Gly Leu Lys Leu Asp Tyr Tyr
 515 520 525
 Thr His Phe Thr Ser Pro Ile Arg Arg Tyr Ile Asp Leu Ile Val His
 530 535 540
 Arg Leu Leu Phe Asn Pro Leu Ser Ile Asp Gln Thr His Leu Glu Ile
 545 550 555 560
 Ile Val Arg Ala Cys Ser Thr Lys Glu Arg Val Ser Ala Lys Ala Glu
 565 570 575
 Asn Ser Phe Glu Asn Leu Lys Lys Thr Arg Phe Ile Asn Lys Phe Leu
 580 585 590
 Gln Glu Gln Pro Lys Thr Thr Tyr His Ala Tyr Ile Ile Thr Ala Asn
 595 600 605
 His Glu Gly Leu Ser Phe Val Val Thr Glu Phe Cys His Glu Gly Phe
 610 615 620
 Ile Ala Ala Ala Glu Leu Pro Lys Glu Tyr Ser Leu Lys Lys Asn Ala
 625 630 635 640
 Leu Pro Glu Ser Ile Pro Asp Lys Met Lys Pro Gly Ala Ser Ile Lys
 645 650 655
 Val Thr Ile Asp Ser Val Asn Leu Leu Thr Gln Lys Ile Val Trp Ser
 660 665 670
 Ile Ala Thr Thr Thr Glu Asp Lys Pro Lys Lys Ile Lys Lys Thr Pro
 675 680 685
 Ser Lys Lys Lys Gly Thr Lys Lys Arg Ala Ser
 690 695

<210> 507
 <211> 212
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0505

<400> 507
 Arg Lys Arg Leu Leu Arg Lys Lys Glu Arg Lys Lys Glu Pro Arg Asn
 1 5 10 15
 Val Leu Gln Glu His Phe Phe Leu Ser Glu Asp Val Ile Thr Leu Ala
 20 25 30
 Gln Gln Leu Leu Gly His Lys Leu Ile Thr Thr His Glu Gly Leu Ile
 35 40 45
 Thr Ser Gly Tyr Ile Val Glu Thr Glu Ala Tyr Arg Gly Pro Asp Asp
 50 55 60
 Lys Ala Cys His Ala Tyr Asn Tyr Arg Lys Thr Gln Arg Asn Arg Ala
 65 70 75 80
 Met Tyr Leu Lys Gly Ser Ala Tyr Leu Tyr Arg Cys Tyr Gly Met
 85 90 95
 His His Leu Leu Asn Val Val Thr Gly Pro Glu Asp Ile Pro His Ala
 100 105 110

Val Leu Ile Arg Ala Ile Leu Pro Asp Gln Gly Lys Glu Leu Met Ile
 115 120 125
 Gln Arg Arg Gln Trp Arg Asp Lys Pro Pro His Leu Leu Thr Asn Gly
 130 135 140
 Pro Gly Lys Val Cys Gln Ala Leu Gly Ile Ser Leu Glu Asn Asn Arg
 145 150 155 160
 Gln Arg Leu Asn Thr Pro Ala Leu Tyr Ile Ser Lys Glu Lys Ile Ser
 165 170 175
 Gly Thr Leu Thr Ala Thr Ala Arg Ile Gly Ile Asp Tyr Ala Gln Glu
 180 185 190
 Tyr Arg Asp Val Pro Trp Arg Phe Leu Leu Ser Pro Glu Asp Ser Gly
 195 200 205
 Lys Val Leu Ser
 210

<210> 508
 <211> 262
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0506

 <400> 508
 Cys Pro Met Glu Ile Ser Pro Ile Pro Arg Arg Phe Gly Lys Ser Phe
 1 5 10 15
 Ile Leu Asn Asn Leu Lys Leu Tyr Ser Lys Glu Thr Asn Ala His Phe
 20 25 30
 Leu Ile Ser Cys Arg Arg Ile Met Lys Lys Tyr Phe Ile Thr Gly Leu
 35 40 45
 Val Ile Leu Leu Pro Leu Ala Ile Thr Ile Ala Ile Val Thr Met Ile
 50 55 60
 Met Asn Phe Leu Thr Gln Pro Phe Val Gly Leu Ala Ser Glu Phe Phe
 65 70 75 80
 Glu Lys Phe Ser Phe Tyr Thr Lys His Arg Ala Leu Leu Lys Phe Val
 85 90 95
 Leu Gln Ile Ile Leu Leu Phe Gly Leu Phe Phe Ala Thr Val Leu Leu
 100 105 110
 Gly Phe Leu Thr Arg Ile Met Ile Phe Lys Ser Leu Leu Ser Ile Tyr
 115 120 125
 Asp Lys Ile Leu His Arg Ile Pro Ile Ile Lys Thr Val Tyr Lys Ala
 130 135 140
 Ala Gln Gln Val Met Thr Thr Ile Phe Gly Ser Lys Ser Gly Ser Phe
 145 150 155 160
 Lys Gln Val Val Met Val Pro Phe Pro Asn Ala Asn Val Gln Cys Ile
 165 170 175
 Gly Leu Val Ala Gly Asp Ala Pro Thr Val Cys Cys Thr Gly Glu Lys
 180 185 190
 Glu Asp Asp Pro Leu Val Thr Val Phe Ile Pro Thr Thr Pro Asn Pro
 195 200 205
 Thr Ser Gly Phe Leu Thr Leu Phe Arg Lys Ser Asp Ile Val Phe Leu
 210 215 220
 Asp Met Lys Ile Glu Asp Ala Phe Lys Tyr Ile Ile Ser Cys Gly Val
 225 230 235 240
 Leu Ser Thr Pro Met Ala Cys Pro Ser Ser Pro Leu Pro Asp Glu Leu
 245 250 255
 His Gln Asp Gln Gly Ser
 260

<210> 509
 <211> 75
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0507

<400> 509
 Ser Thr Pro Tyr Pro Gln Phe Pro Leu Ser Gly Glu Ile Lys Lys Phe
 1 5 10 15
 Asn Ile Glu Leu Phe Met Thr Arg Met Ser Lys Gln Ala Arg Arg Arg
 20 25 30
 Ala Lys Ser Pro Lys Lys Arg Lys Pro Lys Tyr Ala Ile Val His Pro
 35 40 45
 Ala Pro Ala Pro Arg Ile Val Tyr Lys Leu His Thr Asn Ala Leu Ser
 50 55 60
 Thr Ser Asp Ser Ile Phe Ile Pro Lys Ile Gly
 65 70 75

<210> 510
 <211> 56
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0508

<400> 510
 Ser Arg Ile Met Ser Arg His Arg Ser Tyr Gly Lys Ser Val Lys Gly
 1 5 10 15
 Val Thr Lys Arg Asn Val Leu Lys Arg Phe Glu Arg Val Glu Val Leu
 20 25 30
 Arg Lys Leu Gly Arg Trp Asn Asp Ser Thr Ala Lys Lys Val Thr Gly
 35 40 45
 Leu Pro Lys Thr Pro Ile Leu Lys
 50 55

<210> 511
 <211> 170
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0509

<400> 511
 Asn Lys Phe Val Phe Leu Tyr Gly Asn Phe Ile Arg Val Thr Gln Glu
 1 5 10 15
 Lys Ile Lys Ile His Val Ser Asn Glu Gln Thr Cys Ile Pro Ile His
 20 25 30
 Leu Val Ser Val Glu Lys Leu Val Thr Leu Leu Glu His Leu Lys
 35 40 45
 Val Thr Thr Asn Glu Ile Phe Ile Tyr Phe Leu Glu Asp Lys Ala Leu
 50 55 60
 Ala Glu Leu His Asp Lys Val Phe Ala Asp Pro Ser Leu Thr Asp Thr
 65 70 75 80
 Ile Thr Leu Pro Ile Asp Ala Pro Gly Asp Pro Ala Tyr Pro His Val
 85 90 95
 Leu Gly Glu Ala Phe Ile Ser Pro Gln Ala Ala Leu Arg Phe Leu Glu
 100 105 110

Asn	Thr	Ser	Pro	Asn	Gln	Glu	Asp	Ile	Tyr	Glu	Glu	Ile	Ser	Arg	Tyr
		115					120					125			
Leu	Val	His	Ser	Ile	Leu	His	Met	Leu	Gly	Tyr	Asp	Asp	Thr	Ser	Ser
	130					135					140				
Glu	Glu	Lys	Arg	Lys	Met	Arg	Val	Lys	Glu	Asn	Gln	Ile	Leu	Cys	Met
145					150					155					160
Leu	Arg	Lys	Lys	His	Ala	Leu	Leu	Thr	Ala						
				165					170						

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 <211> 390
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0510

<400> 512															
Gln	Leu	Asn	Met	Leu	His	Ile	Leu	Leu	Ala	Ile	Phe	Cys	Ile	Leu	Leu
1				5					10					15	
Phe	Leu	Ala	Phe	Gly	Leu	Thr	Gln	Pro	Ser	Cys	His	Gly	Ser	Ser	Lys
			20					25					30		
Phe	Leu	Lys	Thr	Leu	Asn	Gln	Arg	Phe	Phe	Lys	Asp	Lys	Gly	Arg	Glu
		35					40					45			
Tyr	Pro	Pro	Phe	Pro	Ser	Ala	Pro	Thr	Ile	Leu	Ala	Thr	Leu	Leu	Cys
	50					55					60				
Ile	Leu	Tyr	Gly	Ala	Leu	Gly	Thr	Lys	Leu	Tyr	Thr	Leu	Leu	Pro	Pro
65					70					75					80
Lys	Thr	Ala	His	Lys	Asp	Leu	Leu	Phe	Trp	Pro	Leu	Tyr	Ser	Leu	Ser
				85					90					95	
Ala	Leu	Ile	Ala	Tyr	Gly	Phe	Leu	Pro	Pro	Trp	Ile	Ser	Thr	Lys	Val
			100					105					110		
Pro	Lys	Glu	Thr	Thr	Ala	His	Leu	Arg	Phe	Leu	Ala	Ser	Val	Phe	Gln
		115					120					125			
Leu	Gly	Leu	Phe	Pro	Leu	Gln	Leu	Leu	Phe	Tyr	Arg	Arg	Arg	Pro	Asn
	130					135					140				
Gln	Gln	Val	Arg	Ser	Ser	Thr	Ser	Phe	Gln	Ser	Gln	Leu	Ser	Glu	Ala
145					150					155					160
Leu	Ser	Ala	Phe	Asp	Asn	Leu	Ile	Val	Arg	Glu	Val	Met	Ile	Pro	Lys
				165					170					175	
Val	Asp	Ile	Phe	Ala	Leu	Pro	Glu	Glu	Thr	Thr	Leu	Gln	Glu	Ala	Leu
			180						185				190		
Val	Leu	Val	Ser	Glu	Glu	Gly	Tyr	Ser	Arg	Val	Pro	Val	Tyr	Lys	Lys
		195					200					205			
Asn	Leu	Asp	Asn	Ile	Thr	Gly	Ile	Leu	Leu	Val	Lys	Asp	Leu	Leu	Leu
	210					215						220			
Leu	Tyr	Thr	Ser	Ser	His	Asp	Leu	Ser	Gln	Pro	Ile	Ser	Ser	Val	Ala
225					230					235					240
Lys	Pro	Pro	Phe	Tyr	Ala	Pro	Glu	Ile	Lys	Lys	Ala	Ser	Ser	Leu	Leu
				245					250					255	
Gln	Glu	Phe	Arg	Gln	Lys	His	Arg	His	Leu	Ala	Ile	Ile	Val	Asn	Glu
			260					265					270		
Tyr	Gly	Phe	Thr	Glu	Gly	Ile	Ala	Thr	Met	Glu	Asp	Ile	Ile	Glu	Glu
		275					280					285			
Ile	Ile	Gly	Glu	Ile	Ala	Asp	Glu	His	Asp	Val	Gln	Glu	Asn	Thr	Pro
	290					295					300				
Tyr	Lys	Lys	Ile	Gly	Ser	Ser	Trp	Ile	Val	Asp	Gly	Arg	Met	Asn	Ile
305					310					315					320
Ser	Asp	Ala	Glu	Glu	Tyr	Phe	Asn	Leu	Lys	Ile	Asp	His	Glu	Asn	Ser
				325					330					335	

Tyr Asp Thr Leu Gly Gly His Val Phe His Lys Val Gly Ala Val Pro
 340 345 350
 Gln Lys Gly Met Arg Ile His His Glu Asn Phe Asp Ile Glu Ile Ile
 355 360 365
 Thr Cys Thr Glu Arg Asn Val Gly Lys Leu Lys Ile Thr Pro Arg Lys
 370 375 380
 Arg Lys Phe Asn Ile Ser
 385 390

<210> 513
 <211> 116
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0511

<400> 513
 Met Ser Asp Ile Gln Lys Glu Glu His Gly Ser Thr Thr Ile Phe His
 1 5 10 15
 Leu His Gly Lys Leu Asp Gly Ile Ser Ser Pro Glu Val Gln Glu Asn
 20 25 30
 Ile Ser Gln Ser Leu Ala Ala Gly Ser Lys Asn Ile Ile Leu Asp Cys
 35 40 45
 Ala His Leu Asp Tyr Met Ser Ser Ala Gly Ile Arg Val Leu Leu Gln
 50 55 60
 Ser Tyr His Gln Val Gly Gln His Ser Gly Lys Ile Val Leu Thr Thr
 65 70 75 80
 Val Pro Lys Thr Ile Glu Gln Thr Leu Tyr Val Thr Gly Phe Leu Ser
 85 90 95
 Tyr Phe Lys Ile Phe Asn Thr Val Asp Glu Ala Ile Gln Thr Leu Asn
 100 105 110
 Lys Asp Gly Asp
 115

<210> 514
 <211> 625
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0512

<400> 514
 Ser Leu Pro Leu Thr Met Arg Arg Ser Val Cys Tyr Val Asn Pro Ser
 1 5 10 15
 Ile Ala Arg Ala Gly Gln Ile Ser Thr Trp Lys Phe Leu Tyr Ser Leu
 20 25 30
 Ala Thr Pro Leu Pro Ala Gly Thr Lys Cys Lys Phe Asp Leu Ala Gly
 35 40 45
 Ser Gly Lys Pro Thr Asp Trp Glu Ala Pro Ala Thr Asp Leu Ser Gln
 50 55 60
 Thr Arg Asn Val Ile Tyr Ala Glu Met Pro Glu Gly Glu Ile Ile Glu
 65 70 75 80
 Ala Thr Ala Ile Pro Val Lys Asp Asn Pro Val Pro Gln Phe Glu Phe
 85 90 95
 Thr Leu Pro Tyr Glu Leu Gln Val Gly Glu Thr Leu Thr Ile Val Met
 100 105 110
 Gly Ala Ser Pro Asn His Pro Gln Val Asp Asp Ala Gly Asn Gly Ala
 115 120 125

Gln	Leu	Phe	Ala	Gln	Arg	Arg	Lys	Pro	Phe	Tyr	Leu	Tyr	Ile	Asp	Pro
130						135					140				
Thr	Gly	Glu	Gly	Asn	Tyr	Asp	Glu	Pro	Asp	Val	Phe	Ser	Met	Asp	Ile
145					150					155					160
Arg	Gly	Asn	Val	Leu	Lys	Lys	Ile	Glu	Ile	Phe	Thr	Pro	Ser	Tyr	Val
				165					170					175	
Val	Lys	Asn	Lys	Arg	Phe	Asp	Ile	Thr	Val	Arg	Phe	Glu	Asp	Glu	Phe
			180					185					190		
Gly	Asn	Leu	Thr	Asn	Phe	Ser	Pro	Glu	Glu	Thr	Arg	Ile	Glu	Leu	Ser
		195					200					205			
Tyr	Glu	His	Leu	Arg	Glu	Asn	Leu	Asn	Trp	Gln	Leu	Phe	Ile	Pro	Glu
	210					215				220					
Thr	Gly	Phe	Val	Ile	Leu	Pro	Asn	Leu	Tyr	Phe	Asn	Glu	Pro	Gly	Ile
225					230					235					240
Tyr	Arg	Ile	Gln	Leu	Lys	Asn	Leu	Ser	Thr	Gln	Glu	Ile	Phe	Ile	Ser
				245					250					255	
Ala	Pro	Ile	Lys	Cys	Phe	Ala	Asp	Ser	Ala	Pro	Asn	Leu	Met	Trp	Gly
			260				265						270		
Leu	Leu	His	Gly	Glu	Ser	Glu	Arg	Val	Asp	Ser	Glu	Glu	Asn	Ile	Glu
		275					280					285			
Thr	Cys	Met	Arg	Tyr	Phe	Arg	Asp	Asp	Arg	Ala	Leu	Asn	Phe	Tyr	Ala
	290					295					300				
Ser	Ser	Ser	Phe	Glu	Asn	Gln	Glu	Asn	Leu	Ser	Pro	Asp	Ile	Trp	Lys
305					310					315					320
Leu	Ile	Asn	Gln	Thr	Val	Ser	Asp	Phe	Asn	Glu	Glu	Asp	Arg	Phe	Ile
				325					330					335	
Thr	Leu	Ser	Gly	Phe	Gln	Tyr	Ser	Gly	Glu	Pro	His	Leu	Glu	Gly	Val
			340					345					350		
Arg	His	Ile	Leu	His	Thr	Lys	Glu	Thr	Lys	Ser	His	Ser	Lys	His	Lys
		355					360					365			
Glu	Tyr	Lys	His	Ile	Pro	Leu	Ala	Lys	Leu	Tyr	Lys	Ser	Thr	Val	Asn
	370					375					380				
His	Asp	Met	Ile	Ser	Ile	Pro	Ser	Phe	Thr	Ala	Ser	Lys	Glu	His	Gly
385					390					395					400
Phe	Asp	Phe	Glu	Asn	Phe	Tyr	Pro	Glu	Phe	Glu	Arg	Val	Val	Glu	Ile
				405					410					415	
Tyr	Asn	Ala	Trp	Gly	Ser	Ser	Glu	Thr	Thr	Ala	Ala	Leu	Asn	Asn	Pro
		420					425						430		
Phe	Pro	Ile	Gln	Gly	Lys	Asp	Ser	Glu	Asp	Pro	Arg	Gly	Thr	Val	Ile
		435					440					445			
Glu	Gly	Leu	Lys	Lys	Asn	Leu	Arg	Phe	Gly	Phe	Val	Ala	Gly	Gly	Leu
	450					455					460				
Asp	Asp	Arg	Gly	Ile	Tyr	Lys	Asp	Tyr	Phe	Asp	Ser	Pro	Gln	Val	Gln
465					470					475					480
Tyr	Ser	Pro	Gly	Leu	Thr	Ala	Ile	Ile	Cys	Asn	Lys	Tyr	Thr	Arg	Glu
				485					490					495	
Ser	Leu	Val	Glu	Ala	Leu	Phe	Ala	Arg	His	Cys	Tyr	Ala	Thr	Thr	Gly
			500					505					510		
Pro	Arg	Ile	Val	Leu	Ser	Phe	Asn	Ile	Thr	Ser	Ala	Pro	Met	Gly	Ser
		515					520						525		
Glu	Leu	Ser	Thr	Gly	Ser	Lys	Pro	Gly	Leu	Asn	Val	Asn	Arg	His	Ile
	530					535					540				
Ser	Gly	His	Val	Ala	Gly	Thr	Ala	Leu	Leu	Lys	Thr	Val	Glu	Ile	Ile
545					550					555					560
Arg	Asn	Gly	Glu	Val	Leu	His	Thr	Phe	Phe	Pro	Asp	Ser	Asn	Asn	Leu
				565					570					575	
Asp	Tyr	Glu	Tyr	Asp	Asp	Met	Val	Pro	Leu	Ser	Ser	Val	Thr	Leu	Lys
			580					585					590		
Asp	Pro	Asn	Gly	Lys	Ala	Pro	Phe	Val	Phe	Tyr	Tyr	Leu	Arg	Val	Thr
		595					600						605		

Gln Ala Asp Asn Ala Met Ala Trp Ser Ser Pro Ile Trp Val Asp Leu
610 615 620

Asn
625

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<211> 413
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0513

<400> 515
Val Pro Ile Cys Leu Ala Gly Pro Ser Leu Lys Gly Val Lys Asn Gln
1 5 10 15
Ile Ala Ala Lys Lys Lys His Val Thr Lys Gln Ser Thr Val Leu Gln
20 25 30
Asn Leu Glu Arg Ile Val His Gln Ser Val His Gln Met Thr Thr Cys
35 40 45
Leu Pro Gln Pro Pro Lys Thr Ser Pro Leu Tyr Ser Ile Phe Glu Lys
50 55 60
Leu Asp Ala Gln Glu Arg Leu Ser Ser Glu Asp Ala Leu His Leu Leu
65 70 75 80
Leu Leu Thr Asn Lys Glu Asp Gln Arg Thr Leu Trp Asn Phe Ala Asp
85 90 95
Gln Val Arg Lys Gln Arg Val Gly Asp Thr Val Tyr Tyr Ser Ser Thr
100 105 110
Leu Tyr Leu Tyr Pro Thr Asn Phe Cys Asp Phe Ser Cys Lys Phe Cys
115 120 125
Ser Phe Tyr Ala Lys Pro Gly Asp Pro Lys Gly Trp Leu Tyr Ser Pro
130 135 140
Asp Asp Leu Leu Gln Gln Ile Gln Asn Ile Lys Thr Pro Ile Thr Glu
145 150 155 160
Val His Ile Val Gly Cys Phe Pro Ser Cys Asn Leu Gln Tyr Tyr
165 170 175
Ser Asp Leu Phe Thr Lys Ile Lys Glu Tyr Asp Pro Gln Ile His Ile
180 185 190
Lys Ala Leu Thr Ala Ile Glu Tyr Ala Tyr Leu Ser Asp Leu Asp Asn
195 200 205
Leu Ser Ile Arg Asp Val Leu Leu Thr Leu Lys Asp Ala Gly Leu Asp
210 215 220
Ser Ile Pro Gly Gly Gly Ala Glu Ile Leu Val Asp Lys Ile Arg Asn
225 230 235 240
Phe Leu Ala Pro Lys Arg Leu Ser Ser Ser Asp Phe Leu Asn Ile His
245 250 255
Lys Met Ala His Gln Leu Gly Ile His Ser Asn Ile Thr Met Leu Cys
260 265 270
Tyr His Lys Glu Gly Pro Glu Asp Leu Val Thr His Met Val Lys Val
275 280 285
Arg Asp Leu Gln Asp Glu Thr Gln Gly Phe Lys Asn Phe Ile Leu Leu
290 295 300
Lys Phe Ala Gln Glu Asn Asn Val Leu Gly Lys Arg Leu Arg Lys Ser
305 310 315 320
Gly Gln Gly His Ala Ile Pro Leu Lys Ser Leu Met Ala Val Ala Arg
325 330 335
Ile Phe Leu Asp Asn Phe Ser Asn Met Lys Ala Leu Trp Asn Tyr Leu
340 345 350
Gly Ile Glu Ala Ala Leu Asp Leu Leu Ser Cys Gly Ala Asn Asp Leu
355 360 365

Ser Ser Thr His Met Gly Glu Lys Val Phe Gln Met Ala Ser Ser Lys
 370 375 380
 Glu Pro Ile Lys Met Asp Ala Glu Gly Met Ala Ala Leu Ile Thr Gln
 385 390 395 400
 Gln Gly Arg Thr Pro Cys Leu Thr Asn Ser Ser His Val
 405 410

<210> 516
 <211> 277
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0514

<400> 516
 Gly Asn Gly Gly Pro His His Thr Thr Arg Glu Asn Ala Met Ser Asn
 1 5 10 15
 Gln Leu Gln Pro Cys Ile Ser Leu Gly Cys Val Ser Tyr Ile Asn Ser
 20 25 30
 Phe Pro Leu Ser Leu Gln Leu Ile Lys Arg Asn Asp Ile Arg Cys Val
 35 40 45
 Leu Ala Pro Pro Ala Asp Leu Leu Asn Leu Leu Ile Glu Gly Lys Leu
 50 55 60
 Asp Val Ala Leu Thr Ser Ser Leu Gly Ala Ile Ser His Asn Leu Gly
 65 70 75 80
 Tyr Val Pro Gly Phe Gly Ile Ala Ala Asn Gln Arg Ile Leu Ser Val
 85 90 95
 Asn Leu Tyr Ala Ala Pro Thr Phe Phe Asn Ser Pro Gln Pro Arg Ile
 100 105 110
 Ala Ala Thr Leu Glu Ser Arg Ser Ser Ile Gly Leu Leu Lys Val Leu
 115 120 125
 Cys Arg His Leu Trp Arg Ile Pro Thr Pro His Ile Leu Arg Phe Ile
 130 135 140
 Thr Thr Lys Val Leu Arg Gln Thr Pro Glu Asn Tyr Asp Gly Leu Leu
 145 150 155 160
 Leu Ile Gly Asp Ala Ala Leu Gln His Pro Val Leu Pro Gly Phe Val
 165 170 175
 Thr Tyr Asp Leu Ala Ser Gly Trp Tyr Asp Leu Thr Lys Leu Pro Phe
 180 185 190
 Val Phe Ala Leu Leu Leu His Ser Thr Ser Trp Lys Glu His Pro Leu
 195 200 205
 Pro Asn Leu Ala Met Glu Glu Ala Leu Gln Gln Phe Glu Ser Ser Pro
 210 215 220
 Glu Glu Val Leu Lys Glu Ala His Gln His Thr Gly Leu Pro Pro Ser
 225 230 235 240
 Leu Leu Gln Glu Tyr Tyr Ala Leu Cys Gln Tyr Arg Leu Gly Glu Glu
 245 250 255
 His Tyr Glu Ser Phe Glu Lys Phe Arg Glu Tyr Tyr Gly Thr Leu Tyr
 260 265 270
 Gln Gln Ala Arg Leu
 275

<210> 517
 <211> 244
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0515

<400> 517

Glu	Lys	Asn	Thr	Thr	Lys	Ala	Leu	Lys	Asn	Ser	Gly	Asn	Ile	Met	Glu
1				5					10					15	
Pro	Ser	Thr	Asn	Lys	Pro	Asp	Cys	Lys	Lys	Ile	Phe	Asp	Ser	Ile	Ala
			20					25					30		
Ser	Lys	Tyr	Asp	Arg	Thr	Asn	Thr	Ile	Leu	Ser	Leu	Gly	Met	His	His
		35					40					45			
Phe	Trp	Asn	Arg	Ser	Leu	Ile	Gln	Ile	Leu	Gly	Ser	Gly	Tyr	Ser	Leu
	50					55					60				
Leu	Asp	Leu	Cys	Ala	Gly	Thr	Gly	Lys	Val	Ala	Lys	Arg	Tyr	Ile	Ala
65					70					75					80
Ala	His	Pro	Gln	Ala	Ser	Val	Thr	Leu	Val	Asp	Phe	Ser	Ser	Ala	Met
			85						90					95	
Leu	Asp	Ile	Ala	Lys	Gln	His	Leu	Pro	Gln	Gly	Ser	Cys	Ser	Phe	Ile
			100					105					110		
His	Ser	Asp	Ile	Asn	Gln	Leu	Pro	Leu	Glu	Asn	His	Ser	Tyr	Pro	Leu
		115					120					125			
Ala	Ala	Met	Ala	Tyr	Gly	Leu	Arg	Asn	Leu	Ser	Asp	Pro	His	Lys	Ala
	130					135					140				
Leu	Gln	Glu	Ile	Ser	Arg	Val	Leu	Met	Pro	Ser	Gly	Lys	Leu	Gly	Ile
145					150					155					160
Leu	Glu	Leu	Thr	Pro	Pro	Lys	Lys	Thr	His	Pro	Thr	Tyr	Ser	Ala	His
			165						170					175	
Lys	Leu	Tyr	Leu	Arg	Ala	Val	Val	Pro	Trp	Ile	Gly	Lys	Ser	Val	Ser
			180					185					190		
Lys	Asp	Pro	Asp	Ala	Tyr	Ser	Tyr	Leu	Ser	Lys	Ser	Ile	Gln	Gln	Leu
		195					200					205			
Pro	Lys	Asp	His	Asp	Leu	Glu	Asp	Leu	Phe	Ser	Lys	Ser	Gly	Phe	Tyr
	210					215					220				
Ile	Ala	Lys	Lys	Lys	Lys	Leu	Phe	Leu	Gly	Ala	Ala	Thr	Ile	Trp	Leu
225					230					235					240
Leu	Glu	Lys	Gln												

<210> 518

<211> 550

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0516

<400> 518

Arg	Ile	Ser	Ile	Ser	Phe	Arg	Val	Ser	Trp	Phe	Val	Lys	Ile	Ile	Leu
1				5					10					15	
Ala	Val	Leu	Gly	Arg	Ala	Ile	Ala	Lys	Ala	Tyr	Tyr	Val	Cys	Met	Val
			20					25					30		
Ala	Arg	Gly	Leu	Cys	Asp	Phe	Pro	Thr	Leu	Val	Pro	Asn	Glu	Arg	Leu
		35					40				45				
Pro	Ile	Gly	Pro	Phe	Phe	Val	Pro	Gln	His	Thr	Ser	Gly	Ala	Lys	Gly
	50					55					60				
Lys	Glu	Phe	Ala	Lys	Arg	Asn	Phe	Ser	Ile	Ile	Ser	Gly	Leu	Asp	Asp
65					70					75					80
Ile	Leu	Lys	Leu	Cys	Ile	Leu	Gln	Arg	Arg	Pro	Phe	Ala	Leu	Gln	Trp
			85						90					95	
Asp	Asn	Leu	Ser	Val	Lys	Ser	Asp	Tyr	Glu	Glu	Ala	Gly	Pro	Ala	Ile
			100					105					110		
Gly	Ile	Arg	Ser	Leu	Glu	Pro	Gln	Val	Ser	Gln	Ile	Ser	Pro	Ala	His
		115					120					125			
Gly	Arg	Leu	Cys	Ser	Thr	Leu	Val	Gln	Trp	Ala	Pro	Ile	Leu	Gly	Ser
	130						135					140			

Glu	Glu	Gln	Leu	Val	Trp	Leu	Glu	Glu	Thr	Met	Lys	Arg	Leu	Lys	Phe
145					150					155					160
Pro	Lys	Ser	Leu	Gly	Ser	Lys	Asp	Ala	Val	Ile	Val	Asp	Ser	Glu	Met
				165						170					175
Val	Pro	Val	Asn	Ala	Asn	Pro	Thr	Gln	Glu	Ile	Pro	Ala	Ala	Ser	Glu
			180						185					190	
Thr	Val	Glu	Ser	Ser	Pro	Val	Ala	Pro	Gly	Asn	Thr	Thr	Asp	Thr	Met
		195					200					205			
Pro	Ala	Ala	Ser	Gly	Thr	Thr	Asp	Thr	Thr	Ser	Gly	Val	Ser	Glu	Ala
	210					215					220				
Ala	Ala	Ala	Glu	Ala	Ala	Val	Asp	Ser	Thr	Pro	Gly	Thr	Glu	Glu	Glu
225					230					235					240
Pro	Ser	Phe	Ser	Leu	Arg	Tyr	Ala	Leu	Val	Val	Gln	Asn	Val	Pro	Tyr
				245					250					255	
Pro	Glu	Pro	Pro	Lys	Glu	Pro	Glu	Val	Met	Phe	Thr	Asp	Glu	Glu	Lys
			260					265					270		
Ser	Leu	Ile	Leu	Glu	Ala	Thr	Arg	Ala	Arg	Arg	Met	Glu	Leu	Asp	Leu
		275					280					285			
Tyr	Asn	Gly	Tyr	Leu	Ala	Asp	Tyr	Glu	Leu	Ser	Lys	Asp	Glu	Ile	Gln
	290					295					300				
Lys	His	Val	Pro	Asp	Leu	Pro	Glu	Asn	Trp	Arg	Thr	Asn	Trp	Arg	Trp
305					310					315					320
Ser	Glu	Arg	Leu	Tyr	Lys	Phe	Phe	Phe	Lys	Thr	Lys	Lys	Glu	Gly	Leu
				325					330					335	
Glu	Glu	Ile	Phe	Leu	Asn	Lys	Glu	Leu	Gly	Asn	Met	Ile	Leu	Ala	Arg
			340						345				350		
Gly	Leu	Ala	Ala	Thr	Gln	Ser	Gln	Ala	Arg	Ile	Lys	Val	Phe	Asn	Ser
		355					360					365			
Leu	Val	Ala	Trp	Leu	Leu	Gln	Ser	Phe	Asn	Val	Gly	Arg	Ser	Cys	Thr
	370					375						380			
Ala	Lys	Pro	Leu	Pro	Thr	Ser	Lys	Leu	Asp	Leu	Phe	Lys	Ser	Glu	Phe
385					390					395					400
Glu	Ser	Lys	Pro	Lys	Asn	Asn	Ile	Leu	Thr	Glu	Phe	Leu	Val	Ala	Ser
				405					410					415	
Asp	Glu	Glu	Ile	Leu	Phe	Lys	Gly	Leu	Arg	Val	Leu	Glu	Pro	Gly	Ile
			420					425					430		
Glu	Gly	Trp	Tyr	Asp	His	Pro	Asp	Gln	Ala	Gly	Glu	Ile	Arg	Ser	Val
		435					440					445			
Leu	Glu	Gly	Leu	Val	Gln	Ala	Gly	Arg	Ile	Ser	Gly	Tyr	Trp	Glu	Asn
	450					455					460				
Gln	Pro	Phe	Gly	Arg	Phe	Val	Leu	Arg	Gly	Val	Gly	Glu	Arg	Arg	Thr
465					470					475					480
Glu	Leu	Val	Glu	Leu	Glu	Ser	Leu	Val	Ala	Ser	Gly	Glu	Ile	Met	
				485				490					495		
Gln	Phe	Phe	Glu	Ser	Ser	Asp	Glu	Glu	Gly	Ala	Phe	Ile	Ile	Asp	Asn
			500					505				510			
Glu	Pro	Ser	Lys	Thr	Ala	Met	Leu	Lys	Gln	Arg	Phe	Lys	Ser	Cys	Val
		515					520					525			
Arg	Thr	Lys	Leu	Val	Gly	Ser	Phe	Ala	Asp	Glu	Ser	Leu	Pro	Arg	Gly
	530					535						540			
Arg	Phe	Thr	Ile	Leu	Val										
545					550										

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 <211> 281
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0517

<400> 519

Phe	Ile	Met	Ser	Ser	Leu	Leu	Ser	Cys	Gly	Arg	Ile	Glu	Pro	Thr	Arg
1				5					10					15	
Val	Thr	Cys	Ser	Leu	Lys	Thr	Tyr	Leu	Glu	Asp	Thr	Ser	Gln	Asn	Gln
			20					25					30		
Leu	Ser	Thr	Arg	Leu	Val	Arg	Ala	Ser	Val	Ile	Phe	Leu	Cys	Ala	Leu
		35					40					45			
Leu	Ile	Ile	Leu	Val	Cys	Val	Ala	Leu	Ser	Ser	Leu	Ile	Pro	Ser	Ile
		50				55					60				
Met	Ala	Leu	Ala	Thr	Ser	Phe	Thr	Val	Met	Gly	Leu	Ile	Leu	Phe	Val
65					70					75					80
Met	Ser	Leu	Leu	Gly	Asp	Val	Ala	Ile	Ile	Ser	Tyr	Leu	Thr	Tyr	Ser
			85					90						95	
Thr	Val	Thr	Ser	Tyr	Arg	Gln	Asn	Lys	Arg	Ala	Phe	Glu	Ile	His	Lys
			100					105					110		
Pro	Ala	Arg	Ser	Val	Tyr	Tyr	Glu	Gly	Val	Arg	His	Trp	Asp	Leu	Gly
		115					120					125			
Arg	Ser	Ser	Leu	Gly	Thr	Gly	Glu	Ile	Pro	Ile	Val	Arg	Thr	Leu	Phe
		130				135					140				
Ser	Pro	Phe	Gln	Asn	His	Gly	Leu	Asn	His	Ala	Leu	Ala	Ala	Lys	Ile
145				150					155						160
Phe	Leu	Phe	Met	Glu	His	Phe	Ser	Pro	Glu	Pro	Pro	Asn	Glu	Pro	Leu
			165						170				175		
Val	Asp	Trp	Ala	Cys	Leu	Ile	Arg	Asp	Phe	Arg	Pro	His	Val	Ser	Ser
			180					185					190		
Leu	Cys	Phe	Val	Ile	Glu	Lys	Gln	Gly	Ser	Ser	Leu	Arg	Thr	Lys	Glu
		195					200					205			
Gly	Asn	Thr	Ile	Cys	Glu	Ala	Phe	Arg	Ser	Asp	Tyr	Asp	Ala	His	Phe
	210					215					220				
Ala	Met	Val	Asp	Cys	Tyr	Arg	Leu	Ile	His	Ser	Lys	Leu	Ile	Ile	Glu
225				230						235					240
Lys	Met	Gly	Leu	Lys	Asn	Ile	Asp	Ile	Ile	Pro	Ser	Val	Met	Val	Arg
			245						250					255	
Glu	Asp	Tyr	Pro	Ser	Arg	Pro	Gly	Glu	Gly	Tyr	Arg	Glu	Gly	Leu	Leu
			260					265					270		
Arg	Met	Tyr	Gly	Gly	Lys	Gly	Ala	Leu							
		275					280								

<210> 520

<211> 325

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0518

<400> 520

Phe	Met	Met	Thr	Tyr	Pro	Val	Pro	Gln	Asn	Pro	Leu	Leu	Leu	Arg	Ile
1				5					10					15	
Leu	Arg	Leu	Met	Asp	Ala	Phe	Ser	Lys	Ser	Asp	Asp	Glu	Arg	Asp	Phe
			20					25					30		
Tyr	Leu	Asp	Arg	Val	Glu	Gly	Phe	Ile	Leu	Tyr	Ile	Asp	Leu	Asp	Lys
		35					40					45			
Asp	Gln	Glu	Asp	Leu	Asn	Lys	Ile	Tyr	Gln	Glu	Leu	Glu	Glu	Asn	Ala
	50					55					60				
Glu	Arg	Tyr	Cys	Leu	Ile	Pro	Lys	Leu	Thr	Phe	Tyr	Glu	Val	Lys	Lys
65					70					75					80
Ile	Met	Glu	Thr	Phe	Ile	Asn	Glu	Lys	Ile	Tyr	Asp	Ile	Asp	Thr	Lys
			85					90					95		
Glu	Lys	Phe	Leu	Glu	Ile	Leu	Gln	Ser	Lys	Asn	Ala	Arg	Glu	Gln	Phe
			100					105					110		

Leu	Glu	Phe	Ile	Tyr	Asp	His	Glu	Ala	Glu	Leu	Glu	Lys	Trp	Gln	Gln
		115					120					125			
Phe	Tyr	Val	Glu	Arg	Ser	Arg	Ile	Arg	Ile	Ile	Glu	Trp	Leu	Arg	Asn
		130				135					140				
Asn	Lys	Phe	His	Phe	Val	Phe	Glu	Glu	Asp	Leu	Asp	Phe	Thr	Lys	Asn
					150					155					160
Val	Leu	Glu	Gln	Leu	Lys	Ile	His	Leu	Phe	Asp	Ala	Lys	Val	Gly	Lys
			165						170					175	
Glu	Ile	Thr	Gln	Ala	Arg	Gln	Leu	Leu	Ser	Asn	Lys	Ala	Lys	Ile	Tyr
			180				185						190		
Tyr	Ser	Asn	Glu	Ala	Leu	Asn	Pro	Arg	Pro	Lys	Arg	Gly	Arg	Pro	Pro
		195				200						205			
Lys	Gln	Ser	Ala	Lys	Val	Glu	Thr	Glu	Thr	Thr	Ile	Ser	Ser	Asp	Ile
		210				215					220				
Tyr	Thr	Lys	Val	Pro	Gln	Ala	Ala	Arg	Arg	Phe	Leu	Phe	Leu	Pro	Glu
					230					235					240
Ile	Thr	Ser	Pro	Ser	Ser	Ile	Thr	Phe	Ser	Glu	Lys	Phe	Asp	Thr	Glu
				245				250						255	
Glu	Glu	Phe	Leu	Ala	Asn	Leu	Arg	Gly	Ser	Thr	Arg	Val	Glu	Asp	Gln
			260				265						270		
Leu	Asn	Leu	Thr	Asn	Leu	Ser	Glu	Arg	Phe	Ala	Ser	Leu	Lys	Glu	Leu
		275					280					285			
Ser	Ala	Lys	Leu	Gly	Tyr	Asp	Ser	Leu	Ser	Thr	Gly	Asp	Phe	Phe	Gly
		290				295					300				
Asp	Asp	Asp	Glu	Lys	Val	Val	Thr	Lys	Thr	Lys	Gly	Ser	Lys	Arg	Gly
		305			310					315					320
Arg	Lys	Lys	Ser	Ser											
				325											

<210> 521

<211> 268

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0519

<400> 521

Gln	Pro	Thr	Lys	Leu	Arg	Ile	Leu	Val	Tyr	Trp	Met	Ala	Phe	Tyr	Ser
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Pro	Ser	Thr	Ile	Ser	Lys	Tyr	Phe	Ile	Tyr	Ser	Gly	Ala	Gly	Asn	Arg
			20					25					30		
Phe	Leu	Leu	Gly	Glu	Thr	Leu	Pro	Glu	Val	Glu	Asp	Val	Arg	Phe	Leu
		35					40					45			
Cys	Gln	Glu	Thr	Arg	Val	Asp	Gly	Phe	Leu	Tyr	Leu	Lys	Pro	Ser	Ser
		50				55					60				
Cys	Ala	Asp	Ala	Gln	Leu	Ile	Ile	Phe	Asn	Ser	Asp	Gly	Ser	Arg	Pro
					70					75					80
Thr	Met	Cys	Gly	Asn	Gly	Leu	Arg	Cys	Ala	Ile	Ala	His	Leu	Ala	Ser
				85					90					95	
Gln	Lys	Gly	Lys	Ser	Asp	Ile	Ser	Val	Ser	Thr	Asp	Ser	Gly	Leu	Tyr
			100					105					110		
Ser	Gly	Tyr	Phe	Tyr	Ser	Trp	Asp	Arg	Val	Leu	Val	Asp	Met	Thr	Leu
		115					120					125			
Ala	Asp	Trp	Arg	Ala	Ser	Val	His	Arg	Leu	Glu	Ser	Arg	Pro	Asp	Pro
		130				135					140				
Leu	Pro	Lys	Glu	Val	Val	Cys	Ile	His	Thr	Gly	Val	Pro	His	Ala	Val
		145			150					155					160
Val	Ile	Leu	Pro	Glu	Ile	Ser	Thr	Leu	Asp	Leu	Ser	Ile	Leu	Gly	Pro
				165					170					175	

Phe Leu Arg Tyr His Gln Thr Phe Ser Pro Asp Gly Val Asn Val Asn
 180 185 190
 Phe Val Gln Ile Leu Gly His Cys Gln Leu Arg Val Arg Thr Tyr Glu
 195 200 205
 Arg Gly Val Glu Gly Glu Thr Ala Ala Cys Gly Thr Gly Ala Leu Ala
 210 215 220
 Ser Ala Leu Val Val Ser Asn Ser Tyr Gly Trp Lys Glu Ser Ile Gln
 225 230 235 240
 Ile His Thr Trp Gly Gly Glu Leu Met Thr Val Ser Gln Asn Arg Gly
 245 250 255
 Arg Val Tyr Leu Gln Gly Ser Val Thr Arg Asp Leu
 260 265

<210> 522
 <211> 196
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0520

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 Glu Arg His Tyr Phe Met Ala Asp Gly Glu Val His Lys Leu Arg Asp
 1 5 10 15
 Ile Ile Glu Lys Glu Leu Leu Glu Ala Arg Arg Val Phe Phe Ser Glu
 20 25 30
 Pro Val Thr Glu Lys Ser Ala Ser Asp Ala Ile Lys Lys Leu Trp Tyr
 35 40 45
 Leu Glu Leu Lys Asp Pro Gly Lys Pro Ile Val Phe Val Ile Asn Ser
 50 55 60
 Pro Gly Gly Ser Val Asp Ala Gly Phe Ala Val Trp Asp Gln Ile Lys
 65 70 75 80
 Met Leu Thr Ser Pro Val Thr Thr Val Val Thr Gly Leu Ala Ala Ser
 85 90 95
 Met Gly Ser Val Leu Ser Leu Cys Ala Ala Pro Gly Arg Arg Phe Ala
 100 105 110
 Thr Pro His Ser Arg Ile Met Ile His Gln Pro Ser Ile Gly Gly Pro
 115 120 125
 Ile Thr Gly Gln Ala Thr Asp Leu Asp Ile His Ala Arg Glu Ile Leu
 130 135 140
 Lys Thr Lys Ala Arg Ile Ile Asp Val Tyr Val Glu Ala Thr Asn Gln
 145 150 155 160
 Pro Arg Asp Ile Ile Glu Lys Ala Ile Asp Arg Asp Met Trp Met Thr
 165 170 175
 Ala Asn Glu Ala Lys Asp Phe Gly Leu Leu Asp Gly Ile Leu Phe Ser
 180 185 190
 Phe Asn Asp Leu
 195

<210> 523
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0521

 <400> 523
 Lys Ser Leu Leu Lys Val Phe Glu Lys Phe Lys Lys Phe Ala Ile Val
 1 5 10 15

Glu	Ile	Phe	Thr	Lys	Val	Val	Ala	Val	Val	Ser	Leu	Leu	His	Lys	Phe
			20					25					30		
Leu	Glu	Asn	Ala	Ser	Gly	Lys	Lys	Gly	Gln	Ser	Leu	Ala	Ser	Thr	Ala
		35					40				45				
Tyr	Leu	Ala	Ala	Leu	Asp	His	Leu	Leu	Asn	Ala	Phe	Pro	Ser	Ile	Gly
	50					55				60					
Glu	Arg	Ile	Ile	Asp	Glu	Leu	Lys	Ser	Gln	Arg	Ser	His	Leu	Lys	Met
65				70					75						80
Ile	Ala	Ser	Glu	Asn	Tyr	Ser	Ser	Leu	Ser	Val	Gln	Leu	Ala	Met	Gly
			85						90					95	
Asn	Leu	Leu	Thr	Asp	Lys	Tyr	Cys	Glu	Gly	Ser	Pro	Phe	Lys	Arg	Phe
			100					105					110		
Tyr	Ser	Cys	Cys	Glu	Asn	Val	Asp	Ala	Ile	Glu	Trp	Glu	Cys	Val	Glu
		115					120					125			
Thr	Ala	Lys	Glu	Leu	Phe	Ala	Ala	Asp	Cys	Ala	Cys	Val	Gln	Pro	His
	130					135					140				
Ser	Gly	Ala	Asp	Ala	Asn	Leu	Leu	Ala	Val	Met	Ala	Ile	Leu	Thr	His
145					150					155					160
Lys	Val	Gln	Gly	Pro	Ala	Val	Ser	Lys	Leu	Gly	Tyr	Lys	Thr	Val	Asn
			165						170					175	
Glu	Leu	Thr	Glu	Glu	Glu	Tyr	Thr	Leu	Leu	Lys	Ala	Glu	Met	Ser	Ser
		180						185					190		
Cys	Val	Cys	Leu	Gly	Pro	Ser	Leu	Asn	Ser	Gly	Gly	His	Leu	Thr	His
		195						200				205			
Gly	Asn	Val	Arg	Leu	Asn	Val	Met	Ser	Lys	Leu	Met	Arg	Cys	Phe	Pro
	210					215					220				
Tyr	Asp	Val	Asn	Pro	Asp	Thr	Glu	Cys	Phe	Asp	Tyr	Ala	Glu	Ile	Ser
225					230					235					240
Arg	Leu	Ala	Lys	Glu	Tyr	Lys	Pro	Lys	Val	Leu	Ile	Ala	Gly	Tyr	Ser
			245						250					255	
Ser	Tyr	Ser	Arg	Arg	Leu	Asn	Phe	Ala	Val	Leu	Lys	Gln	Ile	Ala	Glu
			260				265						270		
Asp	Cys	Gly	Ser	Val	Leu	Trp	Val	Asp	Met	Ala	His	Phe	Ala	Gly	Leu
		275					280					285			
Val	Ala	Gly	Gly	Val	Phe	Val	Asp	Glu	Glu	Asn	Pro	Ile	Pro	Tyr	Ala
	290						295				300				
Asp	Ile	Val	Thr	Thr	Thr	Thr	His	Lys	Thr	Leu	Arg	Gly	Pro	Arg	Gly
305					310					315					320
Gly	Leu	Val	Leu	Ala	Thr	Arg	Glu	Tyr	Glu	Ser	Thr	Leu	Asn	Lys	Ala
				325					330					335	
Cys	Pro	Leu	Met	Met	Gly	Gly	Pro	Leu	Pro	His	Val	Ile	Ala	Ala	Lys
		340						345					350		
Thr	Val	Ala	Leu	Lys	Glu	Ala	Leu	Ser	Val	Asp	Phe	Lys	Lys	Tyr	Ala
		355						360				365			
His	Gln	Val	Val	Asn	Asn	Ala	Arg	Arg	Leu	Ala	Glu	Arg	Phe	Leu	Ser
	370					375					380				
His	Gly	Leu	Arg	Leu	Leu	Thr	Gly	Gly	Thr	Asp	Asn	His	Met	Met	Val
385					390					395					400
Ile	Asp	Leu	Gly	Ser	Leu	Gly	Ile	Ser	Gly	Lys	Ile	Ala	Glu	Asp	Ile
			405						410					415	
Leu	Ser	Ser	Val	Gly	Ile	Ala	Val	Asn	Arg	Asn	Ser	Leu	Pro	Ser	Asp
			420					425					430		
Ala	Ile	Gly	Lys	Trp	Asp	Thr	Ser	Gly	Ile	Arg	Leu	Gly	Thr	Pro	Ala
		435					440					445			
Leu	Thr	Thr	Leu	Gly	Met	Gly	Ile	Asp	Glu	Met	Glu	Glu	Val	Ala	Asp
	450					455					460				
Ile	Ile	Val	Lys	Val	Leu	Arg	Asn	Ile	Arg	Leu	Ser	Cys	His	Val	Glu
465					470					475					480
Gly	Ser	Ser	Lys	Lys	Asn	Lys	Gly	Glu	Leu	Pro	Glu	Ala	Ile	Ala	Gln
			485						490					495	

Glu Ala Arg Asp Arg Val Arg Asn Leu Leu Leu Arg Phe Pro Leu Tyr
 500 505 510
 Pro Glu Ile Asp Leu Glu Ala Leu Val
 515 520

<210> 524
 <211> 277
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0522

<400> 524
 Arg Glu Pro Leu Ser Pro Glu Lys Thr Ser Leu Ala Phe Lys Val Lys
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 Asn Val Asn Gln Arg Met Ile Lys Lys Asn Gln Gly Lys Lys Asn
 20 25 30
 Tyr Phe Gln Tyr Ile Pro Leu Lys Val Gln Lys Leu Arg Gln Pro Ser
 35 40 45
 Phe Tyr Pro Lys Arg Leu Met Thr Leu Tyr Leu Gly Leu Asn Gln Lys
 50 55 60
 Thr Ala Arg Lys Tyr Gln Ala His Tyr Leu Pro Ile Leu Thr Leu Phe
 65 70 75 80
 Pro Tyr Ala Lys Ser Thr Pro Gln Asn Lys Arg Ala Leu Gln Phe Leu
 85 90 95
 Pro Gln Ala Thr His Val Ile Leu Thr Ser Pro Ser Ser Thr His Leu
 100 105 110
 Phe Leu Ser Arg Met Thr Ser Leu Leu Ser Lys Ala Thr Leu Lys Thr
 115 120 125
 Lys Thr Tyr Leu Cys Ile Gly Glu Ser Thr Lys Glu Arg Leu Leu Ser
 130 135 140
 Phe Leu Gly Gln Val Lys Tyr Val Val Ala Thr Gln Glu Ile Ala Glu
 145 150 155 160
 Gly Ile Phe Pro Leu Leu Gln Ala Leu Pro Ser Ser Ala Arg Ile Leu
 165 170 175
 Tyr Pro His Ser Ser Leu Ala Arg Pro Val Ile Arg Glu Phe Leu Tyr
 180 185 190
 Asn Arg Phe Thr Phe Phe Ser Tyr Pro His Tyr Thr Val Lys Pro Arg
 195 200 205
 Lys Leu Lys Lys Asn Ile Leu Ser Lys Tyr Lys Lys Ile Ile Phe Thr
 210 215 220
 Ser Pro Ser Thr Val Arg Ala Phe Ala Lys Ile Phe Pro Arg Phe Pro
 225 230 235 240
 Glu Lys Thr Tyr Trp Cys Gln Gly Arg Met Thr Leu Gln Glu Phe Gln
 245 250 255
 Lys Phe Ser Ser Gln Lys Gln Val Ser Leu Leu Glu Thr Leu Gly Lys
 260 265 270
 Ser Arg Thr Ser Pro
 275

<210> 525
 <211> 111
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0523

<400> 525
Phe Met Ala Ser Ser Ala Thr Pro Gly Phe Asp Gly Thr Ala Pro Ser
1 5 10 15
Leu Phe Pro Pro Ala Thr Arg Pro Arg Tyr Asn Phe Lys Leu Ala Leu
20 25 30
Phe Val Thr Ile Ala Ile Ala Leu Val Trp Ile Ala Leu Ile Ala Thr
35 40 45
Thr Ile Ala Ile Gly Leu Cys Ile His Pro Leu Cys Ser Phe Ile Phe
50 55 60
Leu Thr Ala Ile Pro Leu Tyr Phe Ile Ser Arg Tyr Ile Cys Ser His
65 70 75 80
Tyr Ala Arg Asn Val Tyr Ile Ala Leu Asp Val Val Pro Asp His Ser
85 90 95
Lys Leu Gln Asp Met Arg Ser His Ser Pro Ile Phe Ser Asp Arg
100 105 110

<210> 526
<211> 367
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0524

<400> 526
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1 5 10 15
Ser Ser Gln Val Ser Val Leu Ser Tyr Val Pro Arg Asp Lys Glu Ile
20 25 30
Ala Pro Lys Lys Gln Phe Thr Ile Ala Lys Ile Ser Thr Leu Ala Ile
35 40 45
Leu Ala Ser Leu Ala Leu Gly Ala Leu Val Ala Gly Ile Ser Leu Thr
50 55 60
Ile Val Leu Gly Asn Pro Val Phe Leu Ala Leu Ile Thr Thr Ala
65 70 75 80
Leu Phe Ser Val Val Thr Phe Leu Val Tyr His Gln Met Thr Ser Lys
85 90 95
Val Ser Ser Asn Trp Gln Lys Val Leu Glu Gln Asn Phe Lys Pro Leu
100 105 110
Gly Lys Ala Trp Gln Glu Lys Asn Val Asp Cys Tyr Ser Asn Glu Met
115 120 125
Gln Phe Tyr Asn Asn His Leu Asn Pro Lys Phe Lys Val Ala Ile Gln
130 135 140
Thr Asp Ala Ser Gln Pro Phe Gln Pro Thr Phe Leu Thr Gly Leu Arg
145 150 155 160
Val Ile Glu Lys Asn Gln Ser Thr Gly Ile Ile Phe Asn Pro Val Gly
165 170 175
Pro Thr Asn Leu Ile Asp Asn Thr Ala Thr Asn Leu Ser Thr Ile Leu
180 185 190
Tyr Ser Thr Leu Lys Asp Lys Ser Val Trp Asp Thr Cys Lys Gln Arg
195 200 205
Glu Gly Gly Pro Ala Lys Gly Glu Asp Pro Phe Ser Pro Thr Glu Val
210 215 220
Arg Val Val Lys Leu Pro Asn Glu Ala Leu Asp Gln Thr Phe Asn Leu
225 230 235 240
Asn Leu Ser Ser Ala Glu Lys Lys Ser Ile Leu Pro Thr Phe Leu Gly
245 250 255
His Val Cys Gly Pro Lys Ser Glu Glu Leu Pro Asn Gln Gln Glu Tyr
260 265 270
Tyr Arg Gln Ala Leu Leu Ala Tyr Glu Asn Cys Leu Lys Ala Ala Ile
275 280 285

Glu	Ser	His	Ala	Ala	Ile	Val	Ala	Leu	Pro	Leu	Phe	Thr	Ser	Val	Tyr
290						295					300				
Glu	Val	Pro	Pro	Glu	Glu	Ile	Leu	Pro	Lys	Glu	Gly	Thr	Phe	Tyr	Trp
305					310					315					320
Asp	Asn	Gln	Thr	Gln	Ala	Phe	Cys	Lys	Arg	Ala	Leu	Leu	Asp	Ala	Ile
				325					330					335	
Gln	Asn	Thr	Ala	Leu	Arg	Tyr	Pro	Gln	Arg	Ser	Leu	Leu	Val	Ile	Leu
			340					345					350		
Gln	Asp	Pro	Phe	Asn	Thr	Ile	Glu	Ser	Gln	Ser	Arg	Ser	Glu	Glu	
	355						360					365			

<210> 527
 <211> 258
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0525

Gly	Ile	Ile	Phe	Met	His	Asp	Ala	Leu	Leu	Ser	Ile	Leu	Ala	Ile	Gln
1				5					10					15	
Glu	Leu	Asp	Ile	Lys	Met	Ile	Arg	Leu	Met	Arg	Val	Lys	Lys	Glu	His
			20					25					30		
Gln	Lys	Glu	Leu	Ala	Lys	Val	Gln	Ser	Leu	Lys	Ser	Asp	Ile	Arg	Arg
		35					40					45			
Lys	Val	Gln	Glu	Lys	Glu	Leu	Glu	Met	Glu	Asn	Leu	Lys	Thr	Gln	Ile
	50					55				60					
Arg	Asp	Gly	Glu	Asn	Arg	Ile	Gln	Glu	Ile	Ser	Glu	Gln	Ile	Asn	Lys
65				70						75				80	
Leu	Glu	Asn	Gln	Gln	Ala	Ala	Val	Lys	Lys	Met	Asp	Glu	Phe	Asn	Ala
				85					90					95	
Leu	Thr	Gln	Glu	Met	Thr	Thr	Ala	Asn	Lys	Glu	Arg	Arg	Ser	Leu	Glu
			100					105					110		
His	Gln	Leu	Ser	Asp	Leu	Met	Asp	Lys	Gln	Ala	Gly	Gly	Glu	Asp	Leu
		115					120					125			
Ile	Val	Ser	Leu	Lys	Glu	Ser	Leu	Ala	Ser	Thr	Glu	Asn	Ser	Ser	Ser
	130					135					140				
Val	Ile	Glu	Lys	Glu	Ile	Phe	Glu	Ser	Ile	Lys	Lys	Ile	Asn	Glu	Glu
145					150					155				160	
Gly	Lys	Ala	Leu	Leu	Glu	Gln	Arg	Thr	Glu	Leu	Lys	His	Ala	Thr	Asn
			165						170					175	
Pro	Glu	Leu	Leu	Ser	Ile	Tyr	Glu	Arg	Leu	Leu	Asn	Asn	Lys	Lys	Asp
		180						185					190		
Arg	Val	Val	Val	Pro	Ile	Glu	Asn	Arg	Val	Cys	Ser	Gly	Cys	His	Ile
		195					200					205			
Val	Leu	Thr	Pro	Gln	His	Glu	Asn	Leu	Val	Arg	Lys	Lys	Asp	Arg	Leu
	210					215					220				
Ile	Phe	Cys	Glu	His	Cys	Ser	Arg	Ile	Leu	Tyr	Trp	Gln	Glu	Ser	Gln
225					230					235				240	
Val	Asn	Ala	Gln	Glu	Asn	Ser	Thr	Ala	Lys	Arg	Arg	Arg	Arg	Arg	Ala
			245						250					255	

Ala Val

<210> 528
 <211> 354
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0526

<400> 528

Val	Phe	Asn	Leu	Ile	Glu	Lys	Ser	Phe	Gly	Val	Cys	Tyr	Asp	Gly	Leu
1				5					10					15	
Lys	Cys	Ser	Gln	Ser	Lys	Glu	Asn	Arg	Met	Pro	Ser	Pro	Met	Ile	Ser
			20					25					30		
Thr	Asp	Val	Cys	Gln	Asp	Ile	Leu	Gly	Lys	Gln	Lys	Glu	Ala	Val	Asp
		35					40					45			
Phe	Phe	Phe	Gln	Ala	Phe	Gln	Pro	Lys	Glu	Ala	Met	Gln	Leu	Ala	Glu
	50					55					60				
Lys	Ile	Leu	Gly	His	Ser	Gly	Trp	Val	Phe	Phe	Ser	Gly	Val	Gly	Lys
65					70				75					80	
Ser	Gly	Cys	Val	Ala	Arg	Lys	Leu	Val	Ala	Thr	Leu	Gln	Ser	Leu	Ser
				85					90					95	
Glu	Arg	Ala	Leu	Phe	Phe	Ser	Pro	Val	Asp	Leu	Leu	His	Gly	Asp	Leu
			100					105					110		
Gly	Leu	Val	Ser	Pro	Gly	Asp	Ile	Val	Cys	Leu	Phe	Ser	Lys	Ser	Gly
		115					120					125			
Glu	Thr	Gln	Glu	Leu	Leu	Asp	Thr	Val	Pro	His	Leu	Lys	Ser	Arg	Arg
		130				135						140			
Ala	Ile	Leu	Val	Ala	Ile	Thr	Ser	Met	Pro	Tyr	Ser	Asn	Leu	Ala	Ala
145					150					155				160	
Leu	Ser	Asp	Leu	Val	Val	Ile	Leu	Pro	Ser	Val	Ala	Glu	Leu	Asp	Pro
				165					170					175	
Phe	Asn	Leu	Ile	Pro	Thr	Asn	Ser	Thr	Thr	Cys	Gln	Met	Ile	Phe	Gly
		180						185					190		
Asp	Phe	Leu	Ala	Met	Leu	Leu	Phe	His	Ser	Arg	Gly	Val	Ser	Leu	Ser
		195					200					205			
Thr	Tyr	Gly	Lys	Asn	His	Pro	Ser	Gly	Gln	Val	Gly	Met	Lys	Ala	Asn
	210					215					220				
Gly	Lys	Val	Lys	Asp	Phe	Met	Phe	Pro	Lys	Thr	Glu	Val	Pro	Phe	Cys
225					230					235				240	
His	Leu	Gly	Asp	Lys	Val	Ser	Phe	Ser	Leu	Glu	Val	Phe	Ser	Ala	Tyr
				245					250					255	
Gly	Cys	Gly	Cys	Val	Cys	Ile	Val	Asp	Pro	Gln	Phe	Arg	Leu	Met	Gly
			260					265					270		
Ile	Phe	Thr	Asp	Gly	Asp	Leu	Arg	Arg	Ser	Leu	Ala	Ser	Tyr	Gly	Gly
		275				280						285			
Glu	Val	Leu	Ser	Leu	Ser	Leu	Glu	Lys	Val	Met	Thr	Ala	Asn	Pro	Arg
	290					295					300				
Cys	Ile	Thr	Glu	Asp	Ser	Asp	Ile	Ala	Ile	Ala	Leu	Gln	Leu	Met	Glu
305					310					315				320	
Ser	Ser	Ser	Pro	Val	Ala	Val	Leu	Pro	Val	Leu	Asp	Asn	Glu	Glu	Asn
				325					330				335		
Arg	His	Val	Thr	Gly	Leu	Leu	His	Met	His	Thr	Leu	Ala	Lys	Ala	Gly
			340					345					350		
Leu	Leu														

<210> 529

<211> 395

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0527

<400> 529
 Arg Tyr Met Ile Phe Glu Phe Arg Phe Pro Lys Ile Gly Glu Thr Ser
 1 5 10 15
 Ser Gly Gly Ser Ile Val Arg Trp Leu Lys Asn Leu Gly Asp His Val
 20 25 30
 Ala Arg Asp Glu Pro Leu Ile Glu Val Ser Thr Asp Lys Ile Ala Thr
 35 40 45
 Glu Leu Pro Ser Pro Lys Ala Gly Arg Leu Val Arg Phe Cys Val Asn
 50 55 60
 Glu Gly Asp Glu Val Ala Ser Gly Asp Val Leu Gly Leu Ile Glu Leu
 65 70 75 80
 Glu Glu Ile Ser Glu Ala Asp Asp Glu Ser Thr Ser Cys Pro Pro Thr
 85 90 95
 Ser Cys Glu Thr Lys Ser Glu Ala Gly Ser Ser Ser Ser Ser Val Trp
 100 105 110
 Phe Ser Pro Ala Val Leu Ser Leu Ala Gln Arg Glu Gly Ile Gly Leu
 115 120 125
 Asp Asn Leu Gln Lys Ile Ala Gly Thr Gly Lys Gly Gly Arg Val Thr
 130 135 140
 Arg Gln Asp Leu Glu Ala Tyr Ile Ser Glu Ser Gln Gln Val Ser Ile
 145 150 155 160
 Pro Glu Ile Phe Gln Gly Glu Val Asn Arg Ile Pro Met Ser Pro Leu
 165 170 175
 Arg Arg Ala Ile Ala Ser Ser Leu Ser Lys Ser Ser Asp Glu Val Pro
 180 185 190
 His Ala Ser Leu Val Val Asp Val Asp Val Thr Asp Leu Met Asn Leu
 195 200 205
 Ile Ser Gly Glu Arg Gln Arg Phe Leu Asp Thr His Gly Val Lys Leu
 210 215 220
 Thr Ile Thr Ser Phe Ile Val Gln Cys Leu Ala Gln Thr Leu Arg Gln
 225 230 235 240
 Phe Pro Leu Leu Asn Gly Ser Leu Asp Gly Thr Thr Ile Val Met Lys
 245 250 255
 Lys Ser Val Asn Val Gly Val Ala Val Asn Leu Asn Lys Glu Gly Val
 260 265 270
 Val Val Pro Val Ile His Asn Cys Gln Asp Arg Gly Leu Val Ser Ile
 275 280 285
 Ala Lys Ala Leu Ala Asp Leu Ser Ser Arg Ala Arg Leu Asn Lys Leu
 290 295 300
 Asp Pro Ser Glu Val Gln Asp Gly Ser Val Thr Val Thr Asn Phe Gly
 305 310 315 320
 Met Thr Gly Ala Leu Ile Gly Met Pro Ile Ile Arg Tyr Pro Glu Val
 325 330 335
 Ala Ile Leu Gly Ile Gly Thr Ile Gln Lys Arg Val Val Val Arg Asp
 340 345 350
 Asp Asp Ser Leu Ala Ile Arg Lys Met Val Tyr Val Thr Leu Thr Phe
 355 360 365
 Asp His Arg Val Leu Asp Gly Ile Tyr Gly Ser Glu Phe Leu Thr Ser
 370 375 380
 Leu Lys Asn Arg Leu Glu Ser Val Thr Met Gly
 385 390 395

<210> 530
 <211> 415
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0528

<400> 530
 Leu Met Lys Leu Trp Met Lys Ile Phe Ile Gly Leu Phe Val Gly Val
 1 5 10 15
 Thr Leu Gly Leu Val Leu Glu Asp Lys Ala Ile Phe Phe Lys Pro Ile
 20 25 30
 Gly Asp Ile Phe Leu Asn Leu Leu Ser Met Val Val Tyr Pro Leu Val
 35 40 45
 Phe Cys Ser Met Val Leu Gly Ile Ala Ser Ile Ser Asp Met Lys Lys
 50 55 60
 Leu Gly Arg Ile Gly Ile Lys Ser Val Gly Leu Tyr Leu Gly Thr Thr
 65 70 75 80
 Ala Leu Ala Ile Val Ile Gly Leu Cys Phe Ala Trp Ile Phe Ser Pro
 85 90 95
 Gly Asn Gly Cys Asp Phe Ala Gln Ala Gln Ser Met Asp Ser Ala Val
 100 105 110
 Thr Val Ile Asp Ser Asn Lys Thr Ala Ala Tyr Phe Leu Ser Ile Ile
 115 120 125
 Ala Gln Val Phe Pro Ser Asn Pro Val Arg Ser Phe Ala Glu Gly Asn
 130 135 140
 Ile Leu Gln Ile Ile Ile Phe Ala Ile Phe Leu Gly Ile Ala Leu Arg
 145 150 155 160
 Leu Ser Gly Glu Arg Gly Arg Pro Val Glu Arg Phe Ile Asp Gly Phe
 165 170 175
 Ser Glu Ile Met Leu Arg Met Val Asn Met Ile Met Ser Phe Ala Pro
 180 185 190
 Tyr Gly Val Gly Ala Ser Met Ala Trp Ile Ser Gly Asn His Gly Leu
 195 200 205
 Gly Val Leu Trp Gln Leu Gly Lys Phe Ile Ile Ala Tyr Tyr Leu Ala
 210 215 220
 Cys Leu Phe His Ala Thr Leu Val Phe Gly Gly Leu Val Arg Phe Gly
 225 230 235 240
 Cys Lys Met Ser Phe Ser Lys Phe Leu Ser Ser Met Met Asp Ala Ile
 245 250 255
 Ser Cys Ala Val Ser Thr Ala Ser Ser Ser Ala Thr Leu Pro Val Thr
 260 265 270
 Met Arg Cys Val Ser Lys Asn Leu Gly Val Ser Ala Glu Val Ser Gly
 275 280 285
 Phe Val Leu Pro Leu Gly Ala Thr Val Asn Met Asn Gly Thr Ala Ile
 290 295 300
 Phe Gln Gly Met Ala Ala Val Phe Ile Ala Gln Ala Tyr Asn Cys Pro
 305 310 315 320
 Leu Ser Leu Ser Ser Leu Leu Leu Leu Val Thr Ala Thr Phe Ser
 325 330 335
 Ala Val Gly Ser Ala Gly Val Pro Gly Gly Gly Met Ile Thr Leu Gly
 340 345 350
 Ser Val Leu Ala Ser Val Gly Leu Pro Ile Gln Gly Ile Ala Ile Leu
 355 360 365
 Ala Gly Ile Asp Arg Leu Arg Asp Ile Val Gly Thr Pro Met Asn Ile
 370 375 380
 Leu Gly Asp Ala Val Val Ala Thr Tyr Val Ala Ser Gly Glu Gly Glu
 385 390 395 400
 Leu Ser Pro Tyr Glu Ser Ile Lys Gln Glu Ser Val Glu Thr Thr
 405 410 415

<210> 531
 <211> 378
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0529

<400> 531

Phe	Ser	Cys	Lys	Glu	Ile	Arg	Ala	Phe	Lys	Arg	Gly	Thr	Met	Lys	Lys
1				5					10					15	
Arg	Phe	Pro	Ser	Thr	Leu	Phe	Leu	Phe	Tyr	Arg	Arg	Val	Thr	Ile	Ala
			20					25					30		
Ile	Ser	Leu	Glu	Gly	Ile	Leu	Gly	Trp	Gly	Trp	Leu	Gly	Ser	Leu	Leu
		35					40					45			
Ser	Lys	Val	Phe	Ala	Phe	Leu	Val	Ala	Cys	Trp	Asn	Arg	Phe	Ser	Trp
		50				55					60				
Ser	Thr	Pro	Tyr	Arg	Ala	Arg	Ser	Thr	Val	Ile	Ser	Val	Gly	Asn	Ile
65					70					75				80	
Val	Val	Gly	Gly	Ala	Gly	Lys	Thr	Pro	Thr	Val	Leu	Trp	Leu	Ala	Glu
				85					90					95	
Ala	Leu	Arg	Leu	Arg	Gly	Tyr	Ser	Cys	Gly	Val	Leu	Ser	Arg	Gly	Tyr
			100					105					110		
Lys	Ser	Gln	Ser	Ser	Arg	Gln	Lys	Lys	Leu	Thr	Val	Val	Asp	Ser	Lys
		115					120					125			
Val	His	Ser	Ala	Ser	Tyr	Val	Gly	Asp	Glu	Pro	Leu	Leu	Met	Ala	Glu
	130					135					140				
Lys	Leu	Pro	Glu	Gly	Ser	Val	Trp	Val	His	Lys	Asp	Arg	Arg	Ile	Ser
145					150					155				160	
Ala	Ala	Arg	Ala	Ala	Glu	Lys	Phe	Gly	Ile	Leu	Leu	Leu	Asp	Asp	Gly
				165					170					175	
Leu	Gln	Tyr	Arg	Lys	Leu	His	Lys	Asp	Val	Glu	Ile	Ala	Val	Val	Asn
			180					185					190		
Gly	Gln	Asp	Pro	Leu	Gly	Gly	Arg	Ala	Phe	Phe	Pro	Lys	Gly	Arg	Leu
		195					200					205			
Arg	Asp	Phe	Pro	Leu	Arg	Leu	Lys	Thr	Val	Asp	Ala	Ile	Ile	Val	Asn
	210					215					220				
Gly	Gly	Gly	Lys	Glu	Ala	Gly	Thr	Val	Val	Lys	Arg	Val	Ser	Asn	Ala
225					230					235				240	
Pro	Gln	Ile	Phe	Val	Lys	Pro	Thr	Ile	Ala	Ser	Val	Val	Trp	Thr	His
				245					250					255	
Asn	Gly	Glu	Arg	Ile	Pro	Lys	Glu	Ala	Leu	Arg	Glu	Leu	Arg	Val	Gly
			260					265					270		
Val	Phe	Cys	Gly	Leu	Gly	Phe	Pro	Gln	Gly	Phe	Leu	Asn	Met	Leu	Arg
		275					280					285			
Glu	Glu	Gly	Ile	His	Ile	Leu	Gly	Lys	Tyr	Leu	Leu	Pro	Asp	His	Ala
	290					295					300				
Ala	Ile	Thr	Lys	Lys	Glu	Leu	Asn	Tyr	Phe	Cys	Gln	Gln	Met	Ala	Met
305					310					315				320	
Arg	Gln	Gly	Gln	Gly	Leu	Leu	Cys	Thr	Glu	Lys	Asp	Ser	Val	Lys	Leu
				325					330					335	
Pro	Arg	Leu	Ser	Gly	Glu	Val	Ser	Leu	Leu	Pro	Ile	Ala	Lys	Val	Glu
			340					345					350		
Met	Arg	Leu	Ser	Val	Asn	Gln	Asp	Asp	Thr	Leu	Ser	Leu	Leu	Asn	Met
		355					360					365			
Ile	Glu	Gln	Ile	His	Lys	Asn	Arg	Gly	Asn						
	370					375									

<210> 532

<211> 288

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0530

<400> 532

Ser	Val	Val	Leu	Trp	Gly	Lys	Phe	Leu	Trp	Arg	Arg	Cys	Gly	Ser	Leu
1					5				10					15	

Ala Phe Trp Glu Phe Cys Ser Met Asp Cys Ile Gly Lys His Asn Pro
 20 25 30
 Leu Val Lys Glu Ala Leu Ala Leu Lys Arg Ser Arg Cys Arg Lys Ser
 35 40 45
 Ser Trp Phe Leu Val Glu Gly Ala Arg Glu Ile Gln Lys Ala Leu Arg
 50 55 60
 Thr Gly Tyr Leu Cys Gln His Val Phe Cys Ser Thr His Leu Ser Glu
 65 70 75 80
 Lys Glu Lys Glu Phe Leu Tyr Glu Leu Lys Arg Asn Ser Thr Lys Ile
 85 90 95
 Leu Tyr Cys Leu Asp Ser Thr Leu Ala Gln Leu Ser Phe Lys Glu His
 100 105 110
 His Asp Ser Phe Val Ala Val Ile Gln Lys Arg Val Trp Asn Lys Glu
 115 120 125
 Asp Phe Leu Ile Gln Arg Lys Asn Ala Gln Pro Phe Tyr Leu Ile Ile
 130 135 140
 Glu Gln Val Glu Lys Pro Gly Asn Val Gly Ala Ile Leu Arg Ile Ala
 145 150 155 160
 Asp Gly Ala Gly Val Asp Gly Val Ile Leu Cys Asn Pro Ile Val Asp
 165 170 175
 Leu Tyr Asn Pro Asn Val Val Arg Ser Ser Leu Gly Ala Val Phe Ser
 180 185 190
 Leu Pro Ile Leu Ser Ile Ser Arg Glu Glu Gly Lys Glu Leu Phe Lys
 195 200 205
 Gln Glu Gly Trp Thr Val Phe Val Thr Ser Pro Arg Ala Glu Thr Met
 210 215 220
 Tyr Phe Ser Lys Asn Tyr Leu Gly Pro Thr Ala Leu Val Phe Gly Ser
 225 230 235 240
 Glu Lys Asp Gly Leu Thr Glu Asp Trp Phe Ser Glu Asp Phe Ser Glu
 245 250 255
 Ile Ala Leu Pro Met Leu Gly Glu Ser Asp Ser Leu Asn Leu Ala Thr
 260 265 270
 Ser Val Ala Val Ala Tyr Glu Val Val Arg Gln Arg Trp Val Asn
 275 280 285

<210> 533
 <211> 318
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0531

<400> 533

Asp Ser Ser Lys Asp Asp Phe Arg Lys Glu Lys Gly Arg Arg Lys Ser
 1 5 10 15
 Gln Tyr Arg Asp Arg Tyr Val Asn Lys Asp Thr Gly Arg His Ser Lys
 20 25 30
 Thr Tyr Phe Ser Leu Ile Arg Glu Arg Leu Val Met Asp Tyr Lys Leu
 35 40 45
 Leu Asp Ser Gly Asp Gly Asn Lys Leu Glu Cys Phe Gly Pro Val Thr
 50 55 60
 Leu Ile Arg Pro Ser Ser Ile Ala Val Trp Pro Lys Ser Arg Pro Glu
 65 70 75 80
 Leu Trp Ser Gln Ala Gln Leu Gln Tyr Val Arg Glu Gly Glu Arg Gly
 85 90 95
 Ala Trp Lys Asn Phe Lys Arg Leu Pro Glu Glu Trp Glu Val Ala Phe
 100 105 110
 Ser Asp Val Arg Cys Leu Leu Lys Arg Thr Pro Phe Gly His Leu Gly
 115 120 125

Ala Ser Ser Gly Lys Asp
210

<210> 535
<211> 156
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0533

<400> 535
Glu Val Ala Pro Met Gln Cys Pro Phe Cys Asn His Gly Glu Leu Lys
1 5 10 15
Val Ile Asp Ser Arg Asn Ala Pro Glu Ala Asn Ala Ile Lys Arg Arg
20 25 30
Arg Glu Cys Leu Lys Cys Ser Gln Arg Phe Thr Thr Phe Glu Thr Val
35 40 45
Glu Leu Thr Leu Gln Val Leu Lys Arg Asp Gly Arg Tyr Glu Asn Phe
50 55 60
Gln Glu Ser Lys Leu Ile His Gly Leu Asn Ala Ala Ser Ser His Thr
65 70 75 80
Arg Ile Gly Gln Asp Gln Val His Ala Ile Ala Ser Asn Val Lys Ser
85 90 95
Glu Leu Leu Gly Lys Gln Asn Arg Glu Ile Ser Thr Lys Glu Ile Gly
100 105 110
Glu Leu Val Met Lys Tyr Leu Lys Lys Ala Asp Met Ile Ala Tyr Ile
115 120 125
Arg Phe Ala Cys Val Tyr Arg Arg Phe Lys Asp Val Gly Glu Leu Met
130 135 140
Glu Val Leu Leu Ser Ala Thr Pro Asp Met Glu Lys
145 150 155

<210> 536
<211> 132
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0534

<400> 536
Leu Asn Phe Ile Arg Ser Lys Val Val Pro Leu Ser Asp Asp Glu Ile
1 5 10 15
Glu Gln Phe Lys Lys Arg Leu Leu Glu Met Lys Ala Lys Leu Ser His
20 25 30
Thr Leu Glu Gly Asn Ala Gln Glu Val Lys Lys Pro Asn Glu Ala Thr
35 40 45
Gly Tyr Ser Gln His Gln Ala Asp Gln Gly Thr Asp Thr Phe Asp Arg
50 55 60
Thr Ile Ser Leu Glu Val Thr Thr Lys Glu Tyr Glu Leu Leu Arg Gln
65 70 75 80
Ile Asn Arg Ala Leu Glu Lys Ile Asn Glu Ser Ser Tyr Gly Ile Cys
85 90 95
Asp Val Ser Gly Glu Glu Ile Pro Leu Ala Arg Leu Ile Ala Ile Pro
100 105 110
Tyr Ala Thr Met Thr Val Lys Ala Gln Glu Gln Phe Glu Lys Gly Leu
115 120 125
Leu Ser Gly Asn
130

<210> 537
 <211> 178
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0535

<400> 537
 Lys Arg Thr Pro Ile Trp Lys Leu Ser Ser Met Ala Thr Arg Phe Arg
 1 5 10 15
 Ser Thr Leu Leu Val Ile Thr Leu Phe Val Leu Ile Asp Trp Val Thr
 20 25 30
 Lys Leu Val Val Leu Leu Gln Tyr Lys Asp Leu Gln Ile Leu Thr His
 35 40 45
 Pro Thr Leu Tyr Thr His Ser Trp Gly Arg Phe Ser Phe Ser Ile Ala
 50 55 60
 Pro Val Phe Asn Glu Gly Ala Ala Phe Gly Leu Phe Ser Asn Tyr Lys
 65 70 75 80
 Tyr Phe Leu Phe Leu Arg Ile Phe Val Ile Leu Gly Leu Leu Ala
 85 90 95
 Tyr Leu Phe Phe Lys Lys Lys Ser Ile Gln Ser Thr Thr Gln Thr Ala
 100 105 110
 Leu Val Leu Leu Cys Ala Gly Ala Ile Gly Asn Val Gly Asp Ile Ile
 115 120 125
 Phe Tyr Gly His Ile Val Asp Phe Ile Ser Phe Asn Tyr Lys Gln Trp
 130 135 140
 Ala Phe Pro Thr Phe Asn Val Ala Asp Val Leu Ile Ser Leu Gly Thr
 145 150 155 160
 Leu Leu Leu Val Tyr Lys Phe Tyr Phe Pro Thr Lys Gln Thr Glu Lys
 165 170 175
 Lys Arg

<210> 538
 <211> 464
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0536

<400> 538
 Tyr Arg Ser Leu Gln Glu Lys Leu Arg Tyr Phe Phe Lys Thr Val Met
 1 5 10 15
 Asn Arg Leu Leu Ser Leu Leu Ser Val Phe Asp Asp Phe Phe Trp Ser
 20 25 30
 Tyr Val Ala Phe Ile Leu Ile Ile Val Leu Gly Val Ser Phe Ser Trp
 35 40 45
 Lys Ser Arg Phe Phe Gln Phe Thr Lys Phe Ser Gln Phe Cys Lys Leu
 50 55 60
 Phe Arg Tyr Tyr Ser Gln Asn Pro Gln Glu Arg Glu Thr Lys Gln Gly
 65 70 75 80
 Val His Pro Leu Lys Val Phe Phe Ala Ser Ala Gly Gly Asn Ile Gly
 85 90 95
 Ile Gly Asn Val Val Gly Ile Val Thr Ala Ala Cys Ile Gly Gly Pro
 100 105 110
 Gly Ala Leu Phe Trp Val Trp Ile Ala Gly Ile Phe Gly Ser Ile Val
 115 120 125
 Lys Tyr Ser Glu Val Tyr Leu Gly Ile Lys Phe Arg Lys Leu Asp Arg
 130 135 140

Asp	Gly	Val	Tyr	Gln	Gly	Gly	Pro	Met	Tyr	Phe	Leu	Ile	Lys	Ala	Phe
145					150					155					160
Lys	Thr	Pro	Val	Val	Ser	Val	Ile	Val	Ala	Ile	Leu	Leu	Cys	Ile	Tyr
				165						170					175
Gly	Val	Glu	Ile	Tyr	Gln	Phe	Ser	Val	Ile	Thr	Asp	Ser	Leu	Ala	His
				180						185					190
Cys	Trp	Asn	Leu	Pro	Lys	Val	Tyr	Pro	Met	Leu	Gly	Leu	Leu	Phe	Leu
		195						200				205			
Val	Phe	Tyr	Ala	Ile	Arg	Gly	Gly	Leu	Gln	Arg	Ile	Gly	Lys	Ile	Cys
	210					215					220				
Ser	Ile	Val	Leu	Pro	Phe	Phe	Met	Leu	Leu	Tyr	Cys	Ala	Leu	Ser	Leu
	225					230					235				240
Tyr	Ile	Leu	Val	Lys	Glu	Phe	His	Thr	Leu	Pro	His	Leu	Leu	Ser	Thr
				245						250					255
Val	Phe	Ser	Ser	Ala	Phe	Lys	Gly	Gln	Ser	Ala	Leu	Gly	Gly	Phe	Ala
				260						265					270
Gly	Cys	Thr	Val	Ala	Thr	Thr	Ile	His	Gln	Gly	Ile	Ser	Arg	Ala	Ala
		275						280				285			
Tyr	Ser	Gly	Asp	Ile	Gly	Ile	Gly	Phe	Asp	Ser	Ile	Ile	Gln	Ser	Glu
	290					295					300				
Ser	Ser	Ala	Lys	Asp	Pro	Ser	Thr	Gln	Ala	Gln	Leu	Ser	Ile	Val	Gly
	305					310					315				320
Ile	Ala	Ile	Asp	Asn	Leu	Ile	Cys	Thr	Leu	Ser	Leu	Leu	Met	Val	Leu
				325						330					335
Ala	Ser	Gly	Ser	Trp	Ser	Leu	Gly	Leu	Glu	Asn	Ala	Ser	Gln	Val	Val
				340					345				350		
Glu	His	Thr	Leu	Ala	Ser	Tyr	Phe	Pro	Met	Val	Lys	Phe	Phe	Leu	Pro
		355						360				365			
Thr	Phe	Phe	Phe	Val	Thr	Gly	Tyr	Thr	Thr	Ile	Ile	Ser	Tyr	Phe	Leu
	370					375						380			
Val	Gly	Lys	Lys	Cys	Ala	Lys	Phe	Leu	Tyr	Gly	Asn	Thr	Gly	Ala	Lys
	385					390					395				400
Ile	Tyr	Thr	Leu	Tyr	Gly	Leu	Leu	Ile	Leu	Pro	Leu	Phe	Cys	Phe	Leu
				405						410					415
Ser	Gln	Asn	Thr	Ala	Leu	Leu	Ile	Met	Ser	Val	Ser	Gly	Ala	Leu	Leu
			420						425				430		
Leu	Cys	Phe	Asn	Leu	Leu	Gly	Val	Phe	Ile	Leu	Arg	Lys	Glu	Val	Ile
		435					440					445			
Phe	Pro	Ala	Arg	Ala	Ala	Ser	Leu	Thr	Glu	Thr	Ser	Leu	Ser	Thr	Glu
	450						455					460			

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<220>
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 Phe Cys Cys Val Leu Leu Ser Ile Gly Met Cys Thr Ile Phe Val Met
 20 25 30
 Thr Ile Cys Phe Leu Arg Gln Leu Asn Lys Ile Leu Lys Asn Ile His
 35 40 45
 Arg Val Thr Thr Ile Leu Asn Phe Glu Ala Lys Ile Leu Ala Pro Leu
 50 55 60
 Met Leu Gly Lys Lys Leu Leu Cys Gly Trp Leu Lys Lys Arg Lys Asn
 65 70 75 80

Arg Gly Ser Leu Ser Glu Asp Ile Asp Glu Leu Leu Asp Glu Lys Lys
 85 90 95
 Gln Arg Ser Trp Lys Lys Asn Leu Asp Gln Gly Ile Lys Trp Cys Ala
 100 105 110
 Ala Leu Val Leu Ile Trp Lys Val Phe Arg Asn Lys Asp
 115 120 125

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
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 20 25 30
 Asn His Lys Pro Lys Lys Thr Lys Cys Lys Arg Phe Arg Trp Leu Arg
 35 40 45
 Gly Val Leu Phe Gly Gly Phe Ile Ala Thr Leu Leu Thr Cys Leu Phe
 50 55 60
 Thr Pro Lys Ser Gly Val Gln Leu Arg Lys Lys Ile Leu Lys Val Lys
 65 70 75 80
 Asn Ser Gly Ala Lys Lys Ser Arg Val Phe Phe Lys Asn Ser Lys Gln
 85 90 95
 His Thr Lys Ser Phe Val Lys Gln Ala Lys Leu Leu Ala Lys Asn Ile
 100 105 110
 Ser His Glu Leu Gln Asp Phe Lys Lys Gly Ile Leu Asp Asp Lys Asp
 115 120 125

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<220>
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 1 5 10 15
 Gly Phe Leu Phe Leu Ser Ser Phe Cys Gln Val Ser Tyr Leu Arg Ala
 20 25 30
 Asn Asp Val Leu Leu Pro Leu Ser Gly Ile His Ser Gly Glu Asp Leu
 35 40 45
 Glu Leu Phe Thr Leu Arg Ser Ser Ser Pro Thr Lys Thr Thr Tyr Ser
 50 55 60
 Leu Arg Lys Asp Phe Ile Val Cys Asp Phe Ala Gly Asn Ser Ile His
 65 70 75 80
 Lys Pro Gly Ala Ala Phe Leu Asn Leu Lys Gly Asp Leu Phe Phe Ile
 85 90 95
 Asn Ser Thr Pro Leu Ala Ala Leu Thr Phe Lys Asn Ile His Leu Gly
 100 105 110
 Ala Arg Gly Ala Gly Leu Phe Ser Glu Ser Asn Val Thr Phe Lys Gly
 115 120 125
 Leu His Ser Leu Val Leu Glu Asn Asn Glu Ser Trp Gly Gly Val Leu
 130 135 140

Thr	Thr	Ser	Gly	Asp	Leu	Ser	Phe	Ile	Asn	Asn	Thr	Ser	Val	Leu	Cys
145					150					155					160
Gln	Asn	Asn	Ile	Ser	Tyr	Gly	Pro	Gly	Gly	Ala	Leu	Leu	Leu	Gln	Gly
			165						170					175	
Arg	Lys	Ser	Lys	Ala	Leu	Phe	Phe	Arg	Asp	Asn	Arg	Gly	Thr	Ile	Leu
			180					185					190		
Phe	Leu	Lys	Asn	Lys	Ala	Val	Asn	Gln	Asp	Glu	Ser	His	Pro	Gly	Tyr
		195					200					205			
Gly	Gly	Ala	Val	Ser	Ser	Ile	Ser	Pro	Gly	Ser	Pro	Ile	Thr	Phe	Ala
	210					215					220				
Asp	Asn	Gln	Glu	Ile	Leu	Phe	Gln	Glu	Asn	Glu	Gly	Glu	Leu	Gly	Gly
225					230					235					240
Ala	Ile	Tyr	Asn	Asp	Gln	Gly	Ala	Ile	Thr	Phe	Glu	Asn	Asn	Phe	Gln
			245						250					255	
Thr	Thr	Ser	Phe	Phe	Ser	Asn	Lys	Ala	Ser	Phe	Gly	Gly	Ala	Val	Tyr
			260					265					270		
Ser	Arg	Tyr	Cys	Asn	Leu	Tyr	Ser	Gln	Trp	Gly	Asp	Thr	Leu	Phe	Thr
		275					280					285			
Lys	Asn	Ala	Ala	Ala	Lys	Val	Gly	Gly	Ala	Ile	His	Ala	Asp	Tyr	Val
	290					295					300				
His	Ile	Arg	Asp	Cys	Lys	Gly	Ser	Ile	Val	Phe	Glu	Glu	Asn	Ser	Ala
305					310					315					320
Thr	Ala	Gly	Gly	Ala	Ile	Ala	Val	Asn	Ala	Val	Cys	Asp	Ile	Asn	Ala
			325						330					335	
Gln	Gly	Pro	Val	Arg	Phe	Ile	Asn	Asn	Ser	Ala	Leu	Gly	Leu	Asn	Gly
		340						345					350		
Gly	Ala	Ile	Tyr	Met	Gln	Ala	Thr	Gly	Ser	Ile	Leu	Arg	Leu	His	Ala
	355						360					365			
Asn	Gln	Gly	Asp	Ile	Glu	Phe	Cys	Gly	Asn	Lys	Val	Arg	Ser	Gln	Phe
	370					375					380				
His	Ser	His	Ile	Asn	Ser	Thr	Ser	Asn	Phe	Thr	Asn	Asn	Ala	Ile	Thr
385					390					395					400
Ile	Gln	Gly	Ala	Pro	Arg	Glu	Phe	Ser	Leu	Ser	Ala	Asn	Glu	Gly	His
			405						410					415	
Arg	Ile	Cys	Phe	Tyr	Asp	Pro	Ile	Ile	Ser	Ala	Thr	Glu	Asn	Tyr	Asn
			420					425					430		
Ser	Leu	Tyr	Ile	Asn	His	Gln	Arg	Leu	Leu	Glu	Ala	Gly	Gly	Ala	Val
		435					440					445			
Ile	Phe	Ser	Gly	Ala	Arg	Leu	Ser	Pro	Glu	His	Lys	Lys	Glu	Asn	Lys
	450					455					460				
Asn	Lys	Thr	Ser	Ile	Ile	Asn	Gln	Pro	Val	Arg	Leu	Cys	Ser	Gly	Val
465					470					475					480
Leu	Ser	Ile	Glu	Gly	Gly	Ala	Ile	Leu	Ala	Val	Arg	Ser	Phe	Tyr	Gln
			485						490					495	
Glu	Gly	Gly	Leu	Leu	Ala	Leu	Gly	Pro	Gly	Ser	Lys	Leu	Thr	Thr	Gln
			500					505					510		
Gly	Lys	Asn	Ser	Glu	Lys	Asp	Lys	Ile	Val	Ile	Thr	Asn	Leu	Gly	Phe
		515					520					525			
Asn	Leu	Glu	Asn	Leu	Asp	Ser	Ser	Asp	Pro	Ala	Glu	Ile	Arg	Ala	Thr
	530					535					540				
Glu	Lys	Ala	Ser	Ile	Glu	Ile	Ser	Gly	Val	Pro	Arg	Val	Tyr	Gly	His
545					550					555					560
Thr	Glu	Ser	Phe	Tyr	Glu	Asn	His	Glu	Tyr	Ala	Ser	Lys	Pro	Tyr	Thr
			565						570					575	
Thr	Ser	Ile	Ile	Leu	Ser	Ala	Lys	Lys	Leu	Val	Thr	Ala	Pro	Ser	Arg
			580					585					590		
Pro	Glu	Lys	Asp	Ile	Gln	Asn	Leu	Ile	Ile	Ala	Glu	Ser	Glu	Tyr	Met
		595					600					605			
Gly	Tyr	Gly	Tyr	Gln	Gly	Ser	Trp	Glu	Phe	Ser	Trp	Ser	Pro	Asn	Asp
	610					615					620				

Leu	Thr	Gly	Phe	Thr	Gln	Ser	Ser	Thr	Glu	Thr	Asp	Gly	Thr	Thr	Tyr
65					70					75					80
Thr	Ile	Val	Gly	Asp	Ile	Thr	Phe	Ser	Thr	Phe	Thr	Asn	Ile	Pro	Val
				85						90					95
Pro	Val	Val	Thr	Pro	Asp	Ala	Asn	Asp	Ser	Ser	Ser	Asn	Ser	Ser	Lys
			100					105					110		
Gly	Gly	Ser	Ser	Ser	Ser	Gly	Ala	Thr	Ser	Leu	Ile	Arg	Ser	Ser	Asn
		115					120					125			
Leu	His	Ser	Asp	Phe	Asp	Phe	Thr	Lys	Asp	Ser	Val	Leu	Asp	Leu	Tyr
	130					135					140				
His	Leu	Phe	Phe	Pro	Ser	Ala	Ser	Asn	Thr	Leu	Asn	Pro	Ala	Leu	Leu
145					150					155					160
Ser	Ser	Ser	Ser	Ser	Gly	Gly	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser	Ser
				165					170						175
Ser	Gly	Ser	Ala	Ser	Ala	Val	Val	Ala	Ala	Asp	Pro	Lys	Gly	Gly	Ala
			180						185				190		
Ala	Phe	Tyr	Ser	Asn	Glu	Ala	Asn	Gly	Thr	Leu	Thr	Phe	Thr	Thr	Asp
		195					200						205		
Ser	Gly	Asn	Pro	Gly	Ser	Leu	Thr	Leu	Gln	Asn	Leu	Lys	Met	Thr	Gly
	210					215					220				
Asp	Gly	Ala	Ala	Ile	Tyr	Ser	Lys	Gly	Pro	Leu	Val	Phe	Thr	Gly	Leu
225					230					235					240
Lys	Asn	Leu	Thr	Phe	Thr	Gly	Asn	Glu	Ser	Gln	Lys	Ser	Gly	Gly	Ala
				245					250					255	
Ala	Tyr	Thr	Glu	Gly	Ala	Leu	Thr	Thr	Gln	Ala	Ile	Val	Glu	Ala	Val
			260						265				270		
Thr	Phe	Thr	Gly	Asn	Thr	Ser	Ala	Gly	Gln	Gly	Gly	Ala	Ile	Tyr	Val
		275					280						285		
Lys	Glu	Ala	Thr	Leu	Phe	Asn	Ala	Leu	Asp	Ser	Leu	Lys	Phe	Glu	Lys
	290					295					300				
Asn	Thr	Ser	Gly	Gln	Ala	Gly	Gly	Gly	Ile	Tyr	Thr	Glu	Ser	Thr	Leu
305					310					315					320
Thr	Ile	Ser	Asn	Ile	Thr	Lys	Ser	Ile	Glu	Phe	Ile	Ser	Asn	Lys	Ala
			325						330					335	
Ser	Val	Pro	Ala	Pro	Ala	Pro	Glu	Pro	Thr	Ser	Pro	Ala	Pro	Ser	Ser
			340					345					350		
Leu	Ile	Asn	Ser	Thr	Thr	Ile	Asp	Thr	Ser	Thr	Leu	Gln	Thr	Arg	Ala
		355					360					365			
Ala	Ser	Ala	Thr	Pro	Ala	Val	Ala	Pro	Val	Ala	Ala	Val	Thr	Pro	Thr
		370				375					380				
Pro	Ile	Ser	Thr	Gln	Glu	Thr	Ala	Gly	Asn	Gly	Gly	Ala	Ile	Tyr	Ala
385					390					395					400
Lys	Gln	Gly	Ile	Ser	Ile	Ser	Thr	Phe	Lys	Asp	Leu	Thr	Phe	Lys	Ser
				405					410					415	
Asn	Ser	Ala	Ser	Val	Asp	Ala	Thr	Leu	Thr	Val	Asp	Ser	Ser	Thr	Ile
			420					425					430		
Gly	Glu	Ser	Gly	Gly	Ala	Ile	Phe	Ala	Ala	Asp	Ser	Ile	Gln	Ile	Gln
		435					440					445			
Gln	Cys	Thr	Gly	Thr	Thr	Leu	Phe	Ser	Gly	Asn	Thr	Ala	Asn	Lys	Ser
	450					455					460				
Gly	Gly	Gly	Ile	Tyr	Ala	Val	Gly	Gln	Val	Thr	Leu	Glu	Asp	Ile	Ala
465					470					475					480
Asn	Leu	Lys	Met	Thr	Asn	Asn	Thr	Cys	Lys	Gly	Glu	Gly	Gly	Ala	Ile
				485					490					495	
Tyr	Thr	Lys	Lys	Ala	Leu	Thr	Ile	Asn	Asn	Gly	Ala	Ile	Leu	Thr	Thr
			500					505					510		
Phe	Ser	Gly	Asn	Thr	Ser	Thr	Asp	Asn	Gly	Gly	Ala	Ile	Phe	Ala	Val
		515					520					525			
Gly	Gly	Ile	Thr	Leu	Ser	Asp	Leu	Val	Glu	Val	Arg	Phe	Ser	Lys	Asn
	530					535					540				

Lys	Thr	Gly	Asn	Tyr	Ser	Ala	Pro	Ile	Thr	Lys	Ala	Ala	Ser	Asn	Thr
545					550					555					560
Ala	Pro	Val	Val	Ser	Ser	Ser	Thr	Thr	Ala	Ala	Ser	Pro	Ala	Val	Pro
				565						570					575
Ala	Ala	Ala	Ala	Ala	Pro	Val	Thr	Asn	Ala	Ala	Lys	Gly	Gly	Ala	Leu
			580					585						590	
Tyr	Ser	Thr	Glu	Gly	Leu	Thr	Val	Ser	Gly	Ile	Thr	Ser	Ile	Leu	Ser
		595					600					605			
Phe	Glu	Asn	Asn	Glu	Cys	Gln	Asn	Gln	Gly	Gly	Gly	Ala	Tyr	Val	Thr
610						615					620				
Lys	Thr	Phe	Gln	Cys	Ser	Asp	Ser	His	Arg	Leu	Gln	Phe	Thr	Ser	Asn
625					630					635					640
Lys	Ala	Ala	Asp	Glu	Gly	Gly	Gly	Leu	Tyr	Cys	Gly	Asp	Asp	Val	Thr
			645						650						655
Leu	Thr	Asn	Leu	Thr	Gly	Lys	Thr	Leu	Phe	Gln	Glu	Asn	Ser	Ser	Glu
		660						665						670	
Lys	His	Gly	Gly	Gly	Leu	Ser	Leu	Ala	Ser	Gly	Lys	Ser	Leu	Thr	Met
	675						680						685		
Thr	Ser	Leu	Glu	Ser	Phe	Cys	Leu	Asn	Ala	Asn	Thr	Ala	Lys	Glu	Asn
	690					695						700			
Gly	Gly	Gly	Ala	Asn	Val	Pro	Glu	Asn	Ile	Val	Leu	Thr	Phe	Thr	Tyr
705					710					715					720
Thr	Pro	Thr	Pro	Asn	Glu	Pro	Ala	Pro	Val	Gln	Gln	Pro	Val	Tyr	Gly
				725					730						735
Glu	Ala	Leu	Val	Thr	Gly	Asn	Thr	Ala	Thr	Lys	Ser	Gly	Gly	Gly	Ile
			740					745						750	
Tyr	Thr	Lys	Asn	Ala	Ala	Phe	Ser	Asn	Leu	Ser	Ser	Val	Thr	Phe	Asp
		755						760					765		
Gln	Asn	Thr	Ser	Ser	Glu	Asn	Gly	Gly	Ala	Leu	Leu	Thr	Gln	Lys	Ala
	770					775						780			
Ala	Asp	Lys	Thr	Asp	Cys	Ser	Phe	Thr	Tyr	Ile	Thr	Asn	Val	Asn	Ile
785					790					795					800
Thr	Asn	Asn	Thr	Ala	Thr	Gly	Asn	Gly	Gly	Gly	Ile	Ala	Gly	Gly	Lys
				805					810						815
Ala	His	Phe	Asp	Arg	Ile	Asp	Asn	Leu	Thr	Val	Gln	Ser	Asn	Gln	Ala
			820					825						830	
Lys	Lys	Gly	Gly	Gly	Val	Tyr	Leu	Glu	Asp	Ala	Leu	Ile	Leu	Glu	Lys
		835					840					845			
Val	Ile	Thr	Gly	Ser	Val	Ser	Gln	Asn	Thr	Ala	Thr	Glu	Ser	Gly	Gly
	850					855					860				
Gly	Ile	Tyr	Ala	Lys	Asp	Ile	Gln	Leu	Gln	Ala	Leu	Pro	Gly	Ser	Phe
865					870					875					880
Thr	Ile	Thr	Asp	Asn	Lys	Val	Glu	Thr	Ser	Leu	Thr	Thr	Ser	Thr	Asn
			885						890					895	
Leu	Tyr	Gly	Gly	Gly	Ile	Tyr	Ser	Ser	Gly	Ala	Val	Thr	Leu	Thr	Asn
		900					905						910		
Ile	Ser	Gly	Thr	Phe	Gly	Ile	Thr	Gly	Asn	Ser	Val	Ile	Asn	Thr	Ala
		915					920						925		
Thr	Ser	Gln	Asp	Ala	Asp	Ile	Gln	Gly	Gly	Gly	Ile	Tyr	Ala	Thr	Thr
	930					935					940				
Ser	Leu	Ser	Ile	Asn	Gln	Cys	Asn	Thr	Pro	Ile	Leu	Phe	Ser	Asn	Asn
945					950					955					960
Ser	Ala	Ala	Thr	Lys	Lys	Thr	Ser	Thr	Thr	Lys	Gln	Ile	Ala	Gly	Gly
			965						970						975
Ala	Ile	Phe	Ser	Ala	Ala	Val	Thr	Ile	Glu	Asn	Asn	Ser	Gln	Pro	Ile
			980					985						990	
Ile	Phe	Leu	Asn	Asn	Ser	Ala	Lys	Ser	Glu	Ala	Thr	Thr	Ala	Ala	Thr
		995					1000						1005		
Ala	Gly	Asn	Lys	Asp	Ser	Cys	Gly	Gly	Ala	Ile	Ala	Ala	Asn	Ser	Val
1010						1015						1020			

Thr Leu Thr Asn Asn Pro Glu Ile Thr Phe Lys Gly Asn Tyr Ala Glu
 1025 1030 1035 1040
 Thr Gly Gly Ala Ile Gly Cys Ile Asp Leu Thr Asn Gly Ser Pro Pro
 1045 1050 1055
 Arg Lys Val Ser Ile Ala Asp Asn Gly Ser Val Leu Phe Gln Asp Asn
 1060 1065 1070
 Ser Ala Leu Asn Arg Gly Gly Ala Ile Tyr Gly Glu Thr Ile Asp Ile
 1075 1080 1085
 Ser Arg Thr Gly Ala Thr Phe Ile Gly Asn Ser Ser Lys His Asp Gly
 1090 1095 1100
 Ser Ala Ile Cys Cys Ser Thr Ala Leu Thr Leu Ala Pro Asn Ser Gln
 1105 1110 1115 1120
 Leu Ile Phe Glu Asn Asn Lys Val Thr Glu Thr Thr Ala Thr Thr Lys
 1125 1130 1135
 Ala Ser Ile Asn Asn Leu Gly Ala Ala Ile Tyr Gly Asn Asn Glu Thr
 1140 1145 1150
 Ser Asp Val Thr Ile Ser Leu Ser Ala Glu Asn Gly Ser Ile Phe Phe
 1155 1160 1165
 Lys Asn Asn Leu Cys Thr Ala Thr Asn Lys Tyr Cys Ser Ile Ala Gly
 1170 1175 1180
 Asn Val Lys Phe Thr Ala Ile Glu Ala Ser Ala Gly Lys Ala Ile Ser
 1185 1190 1195 1200
 Phe Tyr Asp Ala Val Asn Val Ser Thr Lys Glu Thr Asn Ala Gln Glu
 1205 1210 1215
 Leu Lys Leu Asn Glu Lys Ala Thr Ser Thr Gly Thr Ile Leu Phe Ser
 1220 1225 1230
 Gly Glu Leu His Glu Asn Lys Ser Tyr Ile Pro Gln Lys Val Thr Phe
 1235 1240 1245
 Ala His Gly Asn Leu Ile Leu Gly Lys Asn Ala Glu Leu Ser Val Val
 1250 1255 1260
 Ser Phe Thr Gln Ser Pro Gly Thr Thr Ile Thr Met Gly Pro Gly Ser
 1265 1270 1275 1280
 Val Leu Ser Asn His Ser Lys Glu Ala Gly Gly Ile Ala Ile Asn Asn
 1285 1290 1295
 Val Ile Ile Asp Phe Ser Glu Ile Val Pro Thr Lys Asp Asn Ala Thr
 1300 1305 1310
 Val Ala Pro Pro Thr Leu Lys Leu Val Ser Arg Thr Asn Ala Asp Ser
 1315 1320 1325
 Lys Asp Lys Ile Asp Ile Thr Gly Thr Val Thr Leu Leu Asp Pro Asn
 1330 1335 1340
 Gly Asn Leu Tyr Gln Asn Ser Tyr Leu Gly Glu Asp Arg Asp Ile Thr
 1345 1350 1355 1360
 Leu Phe Asn Ile Asp Asn Ser Ala Ser Gly Ala Val Thr Ala Thr Asn
 1365 1370 1375
 Val Thr Leu Gln Gly Asn Leu Gly Ala Lys Lys Gly Tyr Leu Gly Thr
 1380 1385 1390
 Trp Asn Leu Asp Pro Asn Ser Ser Gly Ser Lys Ile Ile Leu Lys Trp
 1395 1400 1405
 Thr Phe Asp Lys Tyr Leu Arg Trp Pro Tyr Ile Pro Arg Asp Asn His
 1410 1415 1420
 Phe Tyr Ile Asn Ser Ile Trp Gly Ala Gln Asn Ser Leu Val Thr Val
 1425 1430 1435 1440
 Lys Gln Gly Ile Leu Gly Asn Met Leu Asn Asn Ala Arg Phe Glu Asp
 1445 1450 1455
 Pro Ala Phe Asn Asn Phe Trp Ala Ser Ala Ile Gly Ser Phe Leu Arg
 1460 1465 1470
 Lys Glu Val Ser Arg Asn Ser Asp Ser Phe Thr Tyr His Gly Arg Gly
 1475 1480 1485
 Tyr Thr Ala Ala Val Asp Ala Lys Pro Arg Gln Glu Phe Ile Leu Gly
 1490 1495 1500

Ala Ala Phe Ser Gln Val Phe Gly His Ala Glu Ser Glu Tyr His Leu
 1505 1510 1515 1520
 Asp Asn Tyr Lys His Lys Gly Ser Gly His Ser Thr Gln Ala Ser Leu
 1525 1530 1535
 Tyr Ala Gly Asn Ile Phe Tyr Phe Pro Ala Ile Arg Ser Arg Pro Ile
 1540 1545 1550
 Leu Phe Gln Gly Val Ala Thr Tyr Gly Tyr Met Gln His Asp Thr Thr
 1555 1560 1565
 Thr Tyr Tyr Pro Ser Ile Glu Glu Lys Asn Met Ala Asn Trp Asp Ser
 1570 1575 1580
 Ile Ala Trp Leu Phe Asp Leu Arg Phe Ser Val Asp Leu Lys Glu Pro
 1585 1590 1595 1600
 Gln Pro His Ser Thr Ala Arg Leu Thr Phe Tyr Thr Glu Ala Glu Tyr
 1605 1610 1615
 Thr Arg Ile Arg Gln Glu Lys Phe Thr Glu Leu Asp Tyr Asp Pro Arg
 1620 1625 1630
 Ser Phe Ser Ala Cys Ser Tyr Gly Asn Leu Ala Ile Pro Thr Gly Phe
 1635 1640 1645
 Ser Val Asp Gly Ala Leu Ala Trp Arg Glu Ile Ile Leu Tyr Asn Lys
 1650 1655 1660
 Val Ser Ala Ala Tyr Leu Pro Val Ile Leu Arg Asn Asn Pro Lys Ala
 1665 1670 1675 1680
 Thr Tyr Glu Val Leu Ser Thr Lys Glu Lys Gly Asn Val Val Asn Val
 1685 1690 1695
 Leu Pro Thr Arg Asn Ala Ala Arg Ala Glu Val Ser Ser Gln Ile Tyr
 1700 1705 1710
 Leu Gly Ser Tyr Trp Thr Leu Tyr Gly Thr Tyr Thr Ile Asp Ala Ser
 1715 1720 1725
 Met Asn Thr Leu Val Gln Met Ala Asn Gly Gly Ile Arg Phe Val Phe
 1730 1735 1740

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0541

<400> 543

Asn Asn Arg Ser Ser Tyr Gln Thr Ala Phe Val Met His Lys Val Ile
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 Val Phe Ile Phe Leu Thr Leu Tyr Ser Leu Lys Ser Tyr Gly Asn Asp
 20 25 30
 Val Ile Asp Lys Pro His Val Leu Val Ser Ile Ala Pro Tyr Lys Phe
 35 40 45
 Leu Val Glu Gln Ile Ala Glu Glu Thr Cys Phe Val Tyr Ala Ile Val
 50 55 60
 Thr Asn His Tyr Asp Pro His Thr Tyr Glu Leu Pro Pro Gln Gln Ile
 65 70 75 80
 Lys Glu Leu Arg Gln Gly Asp Leu Trp Phe Arg Ile Gly Glu Ala Phe
 85 90 95
 Glu Lys Thr Cys Glu Arg Asn Leu Thr Cys Gln Gln Val Asp Leu Ser
 100 105 110
 Gln Asn Val Ser Leu Ile Gln Gly Lys Pro Cys Cys Asn Gln His Thr
 115 120 125
 Thr Asn Tyr Asp Thr His Thr Trp Leu Ser Pro Lys Asn Leu Lys Val
 130 135 140
 Gln Val Glu Thr Ile Val Thr Thr Leu Ser Lys Lys Tyr Pro Gln His
 145 150 155 160

Ala Thr Leu Tyr Gln Ser Asn Gly Glu Lys Leu Leu Leu Ala Leu Asp
165 170 175
Gln Leu Asn Glu Ile Leu Thr Ile Thr Ser Lys Ala Lys Gln Arg
180 185 190
His Ile Leu Val Ser His Gly Ala Phe Gly Tyr Phe Cys Arg Asp Tyr
195 200 205
Asn Phe Ser Gln His Thr Ile Glu Lys Ser Ser His Val Glu Pro Ser
210 215 220
Pro Lys Asp Val Ala Arg Val Phe Arg Asp Ile Glu Gln Tyr Lys Ile
225 230 235 240
Ser Ser Val Ile Leu Leu Glu Tyr Ser Gly Arg Arg Ser Ser Ala Met
245 250 255
Leu Ala Asp Arg Phe His Met His Thr Val Asn Leu Asp Pro Tyr Ala
260 265 270
Glu Asn Val Leu Val Asn Leu Lys Thr Ile Ala Thr Thr Phe Ser Ser
275 280 285
Leu

<210> 544
<211> 246
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0542

<400> 544

Phe Met Thr Ile Arg Ile Leu Ala Glu Gly Leu Ala Phe Arg Tyr Gly
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Ser Lys Gly Pro Asn Ile Ile His Asp Val Ser Phe Ser Val Tyr Asp
20 25 30
Gly Asp Phe Ile Gly Ile Ile Gly Pro Asn Gly Gly Gly Lys Ser Thr
35 40 45
Leu Thr Met Leu Ile Leu Gly Leu Leu Thr Pro Thr Phe Gly Ser Leu
50 55 60
Lys Thr Phe Pro Ser His Ser Ala Gly Lys Gln Thr His Ser Met Ile
65 70 75 80
Gly Trp Val Pro Gln His Phe Ser Tyr Asp Pro Cys Phe Pro Ile Ser
85 90 95
Val Lys Asp Val Val Leu Ser Gly Arg Leu Ser Gln Leu Ser Trp His
100 105 110
Gly Lys Tyr Lys Lys Lys Asp Phe Glu Ala Val Asp His Ala Leu Asp
115 120 125
Leu Val Gly Leu Ser Asp His His His His Cys Phe Ala His Leu Ser
130 135 140
Gly Gly Gln Ile Gln Arg Val Leu Leu Ala Arg Ala Leu Ala Ser Tyr
145 150 155 160
Pro Glu Ile Leu Ile Leu Asp Glu Pro Thr Thr Asn Ile Asp Pro Asp
165 170 175
Asn Gln Gln Arg Ile Leu Ser Ile Leu Lys Lys Leu Asn Arg Thr Cys
180 185 190
Thr Ile Leu Met Val Thr His Asp Leu His His Thr Thr Asn Tyr Phe
195 200 205
Asn Lys Val Phe Tyr Met Asn Lys Thr Leu Thr Ser Leu Ala Asp Thr
210 215 220
Ser Thr Leu Thr Asp Gln Phe Cys Cys His Pro Tyr Lys Asn Gln Glu
225 230 235 240
Phe Ser Cys Ser Pro His
245

<210> 545
 <211> 298
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0543

<400> 545
 Lys Ser Gly Ile Phe Met Leu Ser Ser Leu Ile Arg Asp Ser Phe Pro
 1 5 10 15
 Leu Leu Ile Leu Leu Pro Thr Phe Leu Ala Ala Leu Gly Ala Ser Val
 20 25 30
 Ala Gly Gly Val Met Gly Thr Tyr Ile Val Val Lys Arg Ile Val Ser
 35 40 45
 Ile Ser Gly Ser Ile Ser His Ala Ile Leu Gly Gly Ile Gly Leu Thr
 50 55 60
 Leu Trp Ile Gln Tyr Lys Leu His Leu Ser Phe Phe Pro Met Tyr Gly
 65 70 75 80
 Ala Ile Val Gly Ala Ile Phe Leu Ala Leu Cys Ile Gly Lys Ile His
 85 90 95
 Leu Lys Tyr Gln Glu Arg Glu Asp Ser Leu Ile Ala Met Ile Trp Ser
 100 105 110
 Val Gly Met Ala Ile Gly Ile Ile Phe Ile Ser Arg Leu Pro Thr Phe
 115 120 125
 Asn Gly Glu Leu Ile Asn Phe Leu Phe Gly Asn Ile Leu Trp Val Thr
 130 135 140
 Pro Ser Asp Leu Tyr Ser Leu Gly Ile Phe Asp Leu Leu Val Leu Gly
 145 150 155 160
 Ile Val Val Leu Cys His Thr Arg Phe Leu Ala Leu Cys Phe Asp Glu
 165 170 175
 Arg Tyr Thr Ala Leu Asn His Cys Ser Val Gln Leu Trp Tyr Phe Leu
 180 185 190
 Leu Leu Val Leu Thr Ala Ile Thr Ile Val Met Leu Ile Tyr Val Met
 195 200 205
 Gly Thr Ile Leu Met Leu Ser Met Leu Val Leu Pro Val Ala Ile Ala
 210 215 220
 Cys Arg Phe Ser Tyr Lys Met Thr Arg Ile Met Phe Ile Ser Val Leu
 225 230 235 240
 Leu Asn Ile Leu Cys Ser Phe Ser Gly Ile Cys Ile Ala Tyr Cys Leu
 245 250 255
 Asp Phe Pro Val Gly Pro Thr Ile Ser Leu Leu Met Gly Leu Gly Tyr
 260 265 270
 Thr Ala Ser Leu Cys Val Lys Lys Arg Tyr Asn Pro Ser Thr Pro Ser
 275 280 285
 Pro Val Ser Pro Glu Ile Asn Thr Asn Val
 290 295

<210> 546
 <211> 358
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0544

<400> 546
 Lys Ser Ser Val Phe Cys Ser Gly Ile Lys Ser Ser Phe Phe Cys Leu
 1 5 10 15
 Lys Lys Asp Lys Asn Val Ile Met Phe Val Asp Gln Ile Thr Leu Glu
 20 25 30

Leu Arg Ala Gly Lys Gly Gly Asn Gly Val Val Ala Trp Arg Lys Glu
 35 40 45
 Lys Tyr Leu Pro Lys Gly Gly Pro Tyr Gly Gly Asn Gly Gly Asn Gly
 50 55 60
 Gly Ser Val Ile Ile Glu Ala Thr Thr Ser Val Tyr Ser Phe Glu Ala
 65 70 75 80
 Tyr Arg Asn Ile Arg Phe Leu Lys Ala Pro Asp Gly Gln Ser Gly Ala
 85 90 95
 Thr Asn Asn Arg Thr Gly Arg Ser Gly Lys Asp Leu Ile Val Ser Val
 100 105 110
 Pro Thr Gly Thr Leu Leu Arg Asp Ala Glu Thr Gly Glu Ile Leu His
 115 120 125
 Asp Phe Thr Val Asp Gly Glu Arg Leu Leu Val Ser Gln Gly Gly Lys
 130 135 140
 Gly Gly Lys Gly Asn Thr Phe Phe Lys Thr Ser Val Asn Arg Ala Pro
 145 150 155 160
 Thr Lys Ala Thr Pro Gly Lys Pro Gly Glu Ile Arg Gln Val Glu Leu
 165 170 175
 Glu Leu Lys Leu Ile Ala Asp Ile Gly Leu Val Gly Phe Pro Asn Ala
 180 185 190
 Gly Lys Ser Thr Leu Phe Asn Thr Leu Ala His Thr Glu Val Lys Val
 195 200 205
 Gly Ala Tyr Pro Phe Thr Thr Leu Ala Pro Ser Leu Gly Leu Val Leu
 210 215 220
 Cys Lys Asp Arg Leu Tyr Gln Lys Pro Trp Ile Ile Ala Asp Ile Pro
 225 230 235 240
 Gly Ile Ile Glu Gly Ala His Gln Asn Lys Gly Leu Gly Leu Asp Phe
 245 250 255
 Leu Arg His Ile Glu Arg Thr Leu Leu Leu Leu Phe Val Ile Asp Val
 260 265 270
 Ser Lys Arg Glu Arg Asn Ser Pro Glu Glu Asp Leu Glu Thr Leu Ile
 275 280 285
 His Glu Leu His Ser His Gln Pro Asp Phe Glu Lys Lys Asp Met Leu
 290 295 300
 Val Ala Leu Asn Lys Ile Asp Asp Leu Leu Pro Asp Glu Gln Glu Glu
 305 310 315 320
 Cys Leu Gln Ser Phe Gln Lys Arg Phe Pro Ser Tyr Thr Phe Val Leu
 325 330 335
 Ile Ser Gly Leu Thr Gly Glu Gly Val Asp Gly Leu Tyr Arg Phe Phe
 340 345 350
 Thr Gln Arg Leu Ala Val
 355

<210> 547

<211> 92

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0545

<400> 547

Thr Glu Ala Arg Glu Phe Arg Val Met Ala His Lys Lys Gly Gln Gly
 1 5 10 15
 Ala Ser Arg Asn Gly Arg Asp Ser Lys Ser Lys Arg Leu Gly Val Lys
 20 25 30
 Val Gly Ala Gly Gln Lys Val Ser Thr Gly Ser Ile Leu Val Arg Gln
 35 40 45
 Arg Gly Thr Arg Trp Asn Pro Ala Gln Asn Val Gly Arg Gly Arg Asp
 50 55 60

Asp Thr Leu Phe Ala Leu Val Asp Gly Ile Val Val Met Lys Lys Thr
65 70 75 80
Asn Arg Thr Tyr Ile Ser Val Val Pro Glu Gln Leu
85 90

<210> 548
<211> 124
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0546

<400> 548
Leu Ser Lys Gln Arg Leu Thr Leu Ser Ile Glu Arg Phe Ile Arg Lys
1 5 10 15
Lys Leu Met Glu Pro Tyr Ala Val Ile Gln Thr Gly Ser Lys Gln Tyr
20 25 30
Gln Val Arg Ser Gly Asp Val Ile Asp Val Glu Leu Leu Gly Glu Val
35 40 45
Ala Ser Asp Lys Glu Val Ile Phe Gln Asp Val Leu Phe Val Phe Asp
50 55 60
Gly Thr Lys Ala Ser Leu Gly Ser Pro Thr Ile Ala Asn Ala Gln Val
65 70 75 80
Lys Ala Glu Tyr Leu Ser His Val Lys Gly Glu Lys Val Val Ala Tyr
85 90 95
Lys Tyr Lys Lys Arg Lys Asn Tyr His Arg Lys His Gly His Arg Gln
100 105 110
Lys Tyr Leu Arg Val Lys Ile Arg Glu Ile Leu Ile
115 120

<210> 549
<211> 200
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0547

<400> 549
Cys Val Asn Phe Arg Asn Phe Val Val Ser Ser Val Lys Glu Ile Leu
1 5 10 15
Lys Lys Asn Ile Tyr Gln Val Val Met Asp Arg Asp Asn Glu Val Pro
20 25 30
Leu Pro Lys Pro Lys Trp Ile Tyr Arg Thr Gly Ile Gly Gln Asp Ser
35 40 45
His Arg Phe Leu Pro Glu Ser Ser Thr Lys Pro Cys Ile Leu Gly Gly
50 55 60
Ile Ile Phe Asp His Cys Pro Gly Phe Gln Ala Asn Ser Asp Gly Asp
65 70 75 80
Ile Ile Phe His Ala Ile Cys Asn Ala Ile Ser Ser Val Thr Asn Lys
85 90 95
Ile Ile Leu Gly Lys Val Ala Asp Glu Leu Leu Gln Thr Arg Gly Ile
100 105 110
Thr Asp Ser Gly Ile Tyr Leu Glu Glu Ala Leu Lys Ser Leu Lys Pro
115 120 125
Asn Gln Lys Ile Ser His Val Ala Ile Thr Ile Glu Gly Ser Arg Pro
130 135 140
Lys Phe Leu Cys Lys Leu Ser Ala Leu Arg Gln Asn Ile Ala Gln Val
145 150 155 160

Met Asn Leu Thr Pro Thr Asp Ile Gly Ile Thr Ala Thr Ser Gly Glu
165 170 175
Gly Leu Ser Asp Phe Gly Cys Gly Asp Gly Val Gln Cys Phe Cys Val
180 185 190
Leu Thr Val Met Glu Tyr Cys Asp
195 200

<210> 550
<211> 348
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0548

<400> 550
Lys Met Tyr Leu Gln Glu Lys Phe Lys Ala Gln Gln Val Pro Leu Val
1 5 10 15
Leu Arg Glu Leu Leu Ser Cys Ser Asp Ser Ile Asn Asp Ser Asp Pro
20 25 30
Ile Tyr Arg Met Val Phe Asp Ser Asn Asp Thr Thr Ile Ser Tyr Lys
35 40 45
Val Gly Asp Ala Leu Gly Val Leu Pro Glu Asn Ser Lys Glu Val Ser
50 55 60
Glu His Val Leu Gln Leu Leu Gly Tyr Ser Pro Thr Thr Leu Val Asn
65 70 75 80
Val Lys Lys Thr Ser Glu Lys Val Ser Ala Gln Lys Phe Ile Gln Gly
85 90 95
Tyr Val Asp Leu Asp Lys Ile Pro Ala Lys Leu Asn Ser Phe Phe Pro
100 105 110
Asp Lys Asp Pro Lys Ile Thr Leu Tyr Asp Ala Ile Gln Glu Tyr Arg
115 120 125
Pro Gln Ile Pro Ile Glu Leu Phe Ala Glu Ser Val Phe Pro Leu Leu
130 135 140
Pro Arg Phe Tyr Ser Ile Ala Ser Ser Pro Asp Leu His Pro Lys Ser
145 150 155 160
Ile Glu Leu Leu Val Lys His Val Ser Tyr Pro Gly Lys Tyr Gln Lys
165 170 175
Arg Phe Gly Val Cys Ser Ser Phe Leu Cys Ser Glu Leu Gln Val Asn
180 185 190
Asp Ser Ala Tyr Ile Phe Val Gln Pro Thr Lys His Phe Thr Leu Ser
195 200 205
Thr Gln Thr Glu Gly Lys Pro Leu Val Met Ile Gly Ala Gly Thr Gly
210 215 220
Ile Ala Pro Tyr Lys Ala Phe Leu Glu Glu Arg Leu Phe Asn Lys Asp
225 230 235 240
Pro Gly Asn Asn Leu Leu Phe Phe Gly Glu Arg Lys Glu Lys Val Asn
245 250 255
Phe Tyr Tyr Arg Glu Phe Trp Asn His Ala Glu Glu Glu Gly Lys Leu
260 265 270
Lys Leu Phe Leu Ala Phe Ser Arg Glu Arg Asp Gln Lys Val Tyr Val
275 280 285
Gln Asp Leu Leu Arg Ile Gln Lys Asp Glu Val Arg Lys Ala Tyr Glu
290 295 300
Glu Gly Gly Phe Phe Phe Val Cys Gly Arg Lys Val Leu Gly Ile Glu
305 310 315 320
Val Lys His Ala Leu Glu Glu Ile Leu Gly Lys Asp Thr Leu Ala Ser
325 330 335
Leu Arg Lys Glu His Arg Tyr Val Val Asp Val Tyr
340 345

<210> 551
 <211> 136
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0549

<400> 551
 Pro Gln Asp Val Gln His Gln Pro Trp Asn Gln His Ser Leu Leu Arg
 1 5 10 15
 Phe Leu Lys Lys Phe Lys Lys Arg Leu Leu Arg Ser Lys Gly Cys Met
 20 25 30
 Lys Gln Gln Lys Gln Lys Ile Arg Ile Arg Leu Lys Gly Phe Asp Gln
 35 40 45
 Gly Gln Leu Asp Arg Ser Thr Ala Asp Ile Val Glu Thr Ala Lys Arg
 50 55 60
 Thr Gly Ala Arg Val Val Gly Pro Ile Pro Leu Pro Thr Lys Arg Glu
 65 70 75 80
 Val Tyr Thr Val Leu Arg Ser Pro His Val Asp Lys Lys Ser Arg Glu
 85 90 95
 Gln Phe Glu Ile Arg Thr His Lys Arg Leu Val Asp Ile Leu Asp Pro
 100 105 110
 Thr Gly Lys Thr Ile Asp Ala Leu Lys Met Leu Ala Leu Pro Ala Gly
 115 120 125
 Val Asp Ile Lys Ile Lys Ala Ala
 130 135

<210> 552
 <211> 703
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0550

<400> 552
 Leu Asn Tyr Gly Glu Asn Asn Lys Phe Met Ser Asn Gln Glu Phe Asp
 1 5 10 15
 Leu Ser Ala Ile Arg Asn Ile Gly Ile Met Ala His Ile Asp Ala Gly
 20 25 30
 Lys Thr Thr Thr Glu Arg Ile Leu Phe Tyr Ala Gly Arg Thr His
 35 40 45
 Lys Ile Gly Glu Val His Glu Gly Gly Ala Thr Met Asp Trp Met Ala
 50 55 60
 Gln Glu Gln Glu Arg Gly Ile Thr Ile Thr Ser Ala Ala Thr Thr Val
 65 70 75 80
 Phe Trp Leu Gly Ala Lys Ile Asn Ile Ile Asp Thr Pro Gly His Val
 85 90 95
 Asp Phe Thr Ile Glu Val Glu Arg Ser Leu Arg Val Leu Asp Gly Ala
 100 105 110
 Val Ala Val Phe Asp Ala Val Ser Gly Val Glu Pro Gln Ser Glu Thr
 115 120 125
 Val Trp Arg Gln Ala Asp Lys Tyr Gly Val Pro Arg Ile Ala Phe Val
 130 135 140
 Asn Lys Met Asp Arg Met Gly Ala Asp Tyr Phe Ala Ala Val Glu Ser
 145 150 155 160
 Met Lys Glu Lys Leu Gly Ala Asn Ala Phe Pro Val His Cys Pro Ile
 165 170 175
 Gly Ser Glu Ser Gln Phe Val Gly Met Val Asp Leu Ile Ser Gln Lys
 180 185 190

844

Arg Ser Leu Thr Ser Gly Arg Ala Thr Ser Thr Met Glu Pro Ala Phe
675 680 685
Phe Ala Lys Val Pro Gln Lys Ile Gln Glu Glu Ile Val Lys Lys
690 695 700

<210> 553
<211> 159
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0551

<400> 553
Met Tyr Met Ser Arg Arg His Ser Ala Glu Lys Arg Asp Ile Pro Gly
1 5 10 15
Asp Pro Ile Tyr Gly Ser Val Ile Leu Glu Lys Phe Ile Asn Lys Val
20 25 30
Met Met His Gly Lys Lys Ser Val Ala Arg Lys Ile Val Tyr Ser Ala
35 40 45
Leu Glu Arg Phe Gly Lys Lys Leu Asn Leu Glu Asn Val Leu Glu Gly
50 55 60
Phe Gly Glu Ala Leu Glu Asn Ala Lys Pro Ile Leu Glu Val Arg Ser
65 70 75 80
Arg Arg Val Gly Gly Ala Thr Tyr Gln Val Pro Val Glu Val Ala Ser
85 90 95
Glu Arg Arg Asn Cys Leu Ala Met Gln Trp Ile Ile Lys His Ala Arg
100 105 110
Ser Lys Pro Gly Lys Ser Met Glu Val Gly Leu Ala Thr Glu Leu Ile
115 120 125
Asp Cys Phe Asn Lys Gln Gly Ala Thr Ile Lys Lys Arg Glu Asp Thr
130 135 140
His Arg Met Ala Glu Ala Asn Lys Ala Phe Ala His Tyr Lys Trp
145 150 155

<210> 554
<211> 160
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0552

<400> 554
Ile Gln Ala Gly Tyr Val Pro Ser Ser Ser Glu Asn Lys Pro Leu Pro
1 5 10 15
Thr Lys Arg Ala Leu Leu Tyr Ile Ser Met Leu Val Val Val Arg Leu
20 25 30
Lys Arg Glu Tyr Met Pro Thr Ile Asn Gln Leu Ile Arg Lys Arg
35 40 45
Arg Lys Ser Ser Leu Ala Arg Lys Lys Ser Pro Ala Leu Gln Lys Cys
50 55 60
Pro Gln Lys Arg Gly Val Cys Leu Gln Val Lys Thr Lys Thr Pro Lys
65 70 75 80
Lys Pro Asn Ser Ala Leu Arg Lys Val Ala Trp Val Arg Leu Ser Asn
85 90 95
Gly Gln Glu Val Ile Ala Tyr Ile Gly Gly Glu Gly His Asn Leu Gln
100 105 110
Glu His Ser Ile Val Leu Ile Gln Gly Gly Arg Val Lys Asp Leu Pro
115 120 125

Gly Val Arg Tyr His Ile Val Arg Gly Thr Leu Asp Cys Ala Ala Val
 130 135 140
 Lys Asn Arg Lys Gln Ser Arg Ser Arg Tyr Gly Ala Lys Arg Pro Lys
 145 150 155 160

<210> 555
 <211> 314
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0553

<400> 555
 Gly Cys Met Trp Arg Val Val Leu Arg Phe Leu Ile Ile Phe Ile Leu
 1 5 10 15
 Gly Arg Ala Val Phe Pro Leu Arg Ala Ser Glu Ser Phe Ser Trp Glu
 20 25 30
 Thr Ser Thr Cys Leu Thr Val Leu Gly Ile Pro Phe Ile Asp Ile Ile
 35 40 45
 Leu Thr Thr Asn Glu Asp Phe Val Ala Gln Cys Gly Leu Gln Ile Gly
 50 55 60
 Thr Ile Ser Ser Thr Asn Asn Ala Lys Ile Lys Glu Ile Phe Leu Ile
 65 70 75 80
 Tyr Lys Glu Lys Phe Pro Glu Ala Ser Ile Ser Phe Lys Arg Lys Glu
 85 90 95
 Pro Leu Asn Leu Ser Gln Ser His Leu Ser Asp Leu Gly Ile Leu Cys
 100 105 110
 Met Arg Asn Gly Glu Thr Tyr Ala Glu Gly Met Ala Asn Lys Glu Asn
 115 120 125
 Gly Pro Ala Leu Lys Gln Pro Lys Asp Leu Arg Leu Val Leu Arg Cys
 130 135 140
 Pro Asn Gln Pro Asp Thr Leu Leu Tyr Ser Glu Lys Glu Ala Glu Lys
 145 150 155 160
 Gly Ile Glu Thr Asn Thr Cys Leu Cys Asn Gln Gly Tyr Thr Leu Leu
 165 170 175
 Asp Gly Gln Leu Ile Leu Tyr Gly Asp Ser Ile Glu Lys Phe Leu Lys
 180 185 190
 Glu Thr Lys Arg Lys Asn Asn His Thr Leu Val Asp Leu Cys Asp Ser
 195 200 205
 Gln Val Val Thr Thr Phe Leu Gly Arg Phe Trp Ser Leu Leu Asn Tyr
 210 215 220
 Val Gln Val Leu Phe Leu Ser Glu Asp Ser Ala Lys Ile Leu Ala Gly
 225 230 235 240
 Ile Pro Asp Leu Ala Gln Ala Thr Gln Leu Leu Ser His Thr Val Pro
 245 250 255
 Leu Leu Phe Ile Tyr Thr Asn Asp Ser Ile His Ile Ile Glu Gln Gly
 260 265 270
 Lys Glu Ser Ser Phe Thr Tyr Asn Gln Asp Leu Thr Glu Pro Ile Leu
 275 280 285
 Gly Phe Leu Phe Gly Tyr Ile Asn Arg Gly Ser Met Glu Tyr Cys Phe
 290 295 300
 Asn Cys Ala Gln Ser Ser Leu Gly Glu Thr
 305 310

<210> 556
 <211> 112
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0554

<400> 556

Val	Phe	Ser	Tyr	Leu	Leu	Leu	Cys	Ile	Ile	Leu	Val	Tyr	Val	Arg	Phe
1				5					10					15	
Met	Tyr	Glu	Gly	Lys	Ser	Arg	Met	Ala	Ser	Pro	Thr	Pro	Gly	Gln	Leu
			20					25					30		
His	Leu	Gln	Gln	Lys	Val	Glu	Ser	Lys	Ala	Tyr	Asp	Tyr	Ser	Arg	Ser
		35					40					45			
Leu	Ala	Met	Ile	Ala	Thr	Ala	Leu	Leu	Phe	Phe	Ile	Val	Ala	Leu	Ile
	50					55				60					
Leu	Ser	Gly	Leu	Ser	Leu	Leu	Pro	Gln	Val	Phe	Leu	Pro	Phe	Ser	Gly
65					70					75				80	
Ala	Tyr	Phe	Ile	Ile	Gly	Ser	Phe	Leu	Ala	Phe	Ile	Ala	Leu	Gly	Ile
				85					90					95	
Leu	Leu	Ile	Asn	Cys	Val	Cys	Asp	Leu	Lys	Gln	Tyr	Leu	Thr	Ser	Ser
			100					105						110	

<210> 557

<211> 648

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0555

<400> 557

Met	Phe	Val	Met	Lys	Lys	Leu	Val	Arg	Leu	Cys	Val	Val	Leu	Leu	Ser
1				5					10					15	
Leu	Leu	Pro	Asn	Val	Leu	Phe	Ser	Ser	Asp	Leu	Leu	Arg	Glu	Glu	Gly
			20					25					30		
Ile	Lys	Lys	Met	Met	Asp	Lys	Leu	Ile	Glu	Tyr	His	Val	Asp	Ala	Gln
		35					40					45			
Glu	Val	Ser	Thr	Asp	Ile	Leu	Ser	Arg	Ser	Leu	Ser	Ser	Tyr	Ile	Gln
	50					55				60					
Ser	Phe	Asp	Pro	His	Lys	Ser	Tyr	Leu	Ser	Asn	Gln	Glu	Val	Ala	Val
65					70					75				80	
Phe	Leu	Gln	Ser	Pro	Glu	Thr	Lys	Lys	Arg	Leu	Leu	Lys	Asn	Tyr	Lys
				85					90					95	
Ala	Gly	Asn	Phe	Ala	Ile	Tyr	Arg	Asn	Ile	Asn	Gln	Leu	Ile	His	Glu
			100					105						110	
Ser	Ile	Leu	Arg	Ala	Arg	Gln	Trp	Arg	Asn	Glu	Trp	Val	Lys	Asn	Pro
		115					120					125			
Lys	Glu	Leu	Val	Leu	Glu	Ala	Ser	Ser	Tyr	Gln	Ile	Ser	Lys	Gln	Pro
	130					135					140				
Met	Gln	Trp	Ser	Lys	Ser	Leu	Asp	Glu	Val	Lys	Gln	Arg	Gln	Arg	Ala
145					150					155				160	
Leu	Leu	Leu	Ser	Tyr	Leu	Ser	Leu	His	Leu	Ala	Gly	Ala	Ser	Ser	Ser
				165					170					175	
Arg	Tyr	Glu	Gly	Lys	Glu	Glu	Gln	Leu	Ala	Ala	Leu	Cys	Leu	Arg	Gln
			180					185					190		
Ile	Glu	Asn	His	Glu	Asn	Val	Tyr	Leu	Gly	Ile	Asn	Asp	His	Gly	Val
		195					200					205			
Ala	Met	Asp	Arg	Asp	Glu	Glu	Ala	Tyr	Gln	Phe	His	Ile	Arg	Val	Val
	210					215					220				
Lys	Ala	Leu	Ala	His	Ser	Leu	Asp	Ala	His	Thr	Ala	Tyr	Phe	Ser	Lys
225					230						235			240	
Asp	Glu	Ala	Leu	Ala	Met	Arg	Ile	Gln	Leu	Glu	Lys	Gly	Met	Cys	Gly
				245					250					255	

<400> 558
 Glu Asn Gly Met Ser Ser Asn Leu His Pro Val Gly Gly Thr Gly Thr
 1 5 10 15
 Gly Ala Ala Ala Pro Glu Ser Val Leu Asn Ile Val Glu Glu Ile Ala
 20 25 30
 Ala Ser Gly Ser Val Thr Ala Gly Leu Gln Ala Ile Thr Ser Ser Pro
 35 40 45
 Gly Met Val Asn Leu Leu Ile Gly Trp Ala Lys Thr Lys Phe Ile Gln
 50 55 60
 Pro Ile Arg Glu Ser Lys Leu Phe Gln Ser Arg Ala Cys Gln Ile Thr
 65 70 75 80
 Leu Leu Val Leu Gly Ile Leu Leu Val Val Ala Gly Leu Ala Cys Met
 85 90 95
 Phe Ile Phe His Ser Gln Leu Gly Ala Asn Ala Phe Trp Leu Ile Ile
 100 105 110
 Pro Ala Ala Ile Gly Leu Ile Lys Leu Leu Val Thr Ser Leu Cys Phe
 115 120 125
 Asp Glu Ala Cys Thr Ser Glu Lys Leu Met Val Phe Gln Lys Trp Ala
 130 135 140
 Gly Val Leu Glu Asp Gln Leu Asp Asp Gly Ile Leu Asn Asn Ser Asn
 145 150 155 160
 Lys Ile Phe Gly His Val Lys Thr Glu Gly Asn Thr Ser Arg Ala Thr
 165 170 175
 Thr Pro Val Leu Asn Asp Gly Arg Gly Thr Pro Val Leu Ser Pro Leu
 180 185 190
 Val Ser Lys Ile Ala Arg Val
 195

<210> 559

<211> 559

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0557

<400> 559
 Glu Ile Pro Met Ser Lys Leu Ile Arg Arg Val Val Thr Val Leu Ala
 1 5 10 15
 Leu Thr Ser Met Ala Ser Cys Phe Ala Ser Gly Gly Ile Glu Ala Ala
 20 25 30
 Val Ala Glu Ser Leu Ile Thr Lys Ile Val Ala Ser Ala Glu Thr Lys
 35 40 45
 Pro Ala Pro Val Pro Met Thr Ala Lys Lys Val Arg Leu Val Arg Arg
 50 55 60
 Asn Lys Gln Pro Val Glu Gln Lys Ser Arg Gly Ala Phe Cys Asp Lys
 65 70 75 80
 Glu Phe Tyr Pro Cys Glu Glu Gly Arg Cys Gln Pro Val Glu Ala Gln
 85 90 95
 Gln Glu Ser Cys Tyr Gly Arg Leu Tyr Ser Val Lys Val Asn Asp Asp
 100 105 110
 Cys Asn Val Glu Ile Cys Gln Ser Val Pro Glu Tyr Ala Thr Val Gly
 115 120 125
 Ser Pro Tyr Pro Ile Glu Ile Leu Ala Ile Gly Lys Lys Asp Cys Val
 130 135 140
 Asp Val Val Ile Thr Gln Gln Leu Pro Cys Glu Ala Glu Phe Val Ser
 145 150 155 160
 Ser Asp Pro Glu Thr Thr Pro Thr Ser Asp Gly Lys Leu Val Trp Lys
 165 170 175
 Ile Asp Arg Leu Gly Ala Gly Asp Lys Cys Lys Ile Thr Val Trp Val
 180 185 190

Lys Pro Leu Lys Glu Gly Cys Cys Phe Thr Ala Ala Thr Val Cys Ala
 195 200 205
 Cys Pro Glu Leu Arg Ser Tyr Thr Lys Cys Gly Gln Pro Ala Ile Cys
 210 215 220
 Ile Lys Gln Glu Gly Pro Asp Cys Ala Cys Leu Arg Cys Pro Val Cys
 225 230 235 240
 Tyr Lys Ile Glu Val Val Asn Thr Gly Ser Ala Ile Ala Arg Asn Val
 245 250 255
 Thr Val Asp Asn Pro Val Pro Asp Gly Tyr Ser His Ala Ser Gly Gln
 260 265 270
 Arg Val Leu Ser Phe Asn Leu Gly Asp Met Arg Pro Gly Asp Lys Lys
 275 280 285
 Val Phe Thr Val Glu Phe Cys Pro Gln Arg Arg Gly Gln Ile Thr Asn
 290 295 300
 Val Ala Thr Val Thr Tyr Cys Gly Gly His Lys Cys Ser Ala Asn Val
 305 310 315 320
 Thr Thr Val Val Asn Glu Pro Cys Val Gln Val Asn Ile Ser Gly Ala
 325 330 335
 Asp Trp Ser Tyr Val Cys Lys Pro Val Glu Tyr Ser Ile Ser Val Ser
 340 345 350
 Asn Pro Gly Asp Leu Val Leu His Asp Val Val Ile Gln Asp Thr Leu
 355 360 365
 Pro Ser Gly Val Thr Val Leu Glu Ala Pro Gly Gly Glu Ile Cys Cys
 370 375 380
 Asn Lys Val Val Trp Arg Ile Lys Glu Met Cys Pro Gly Glu Thr Leu
 385 390 395 400
 Gln Phe Lys Leu Val Val Lys Ala Gln Val Pro Gly Arg Phe Thr Asn
 405 410 415
 Gln Val Ala Val Thr Ser Glu Ser Asn Cys Gly Thr Cys Thr Ser Cys
 420 425 430
 Ala Glu Thr Thr Thr His Trp Lys Gly Leu Ala Ala Thr His Met Cys
 435 440 445
 Val Leu Asp Thr Asn Asp Pro Ile Cys Val Gly Glu Asn Thr Val Tyr
 450 455 460
 Arg Ile Cys Val Thr Asn Arg Gly Ser Ala Glu Asp Thr Asn Val Ser
 465 470 475 480
 Leu Ile Leu Lys Phe Ser Lys Glu Leu Gln Pro Ile Ala Ser Ser Gly
 485 490 495
 Pro Thr Lys Gly Thr Ile Ser Gly Asn Thr Val Val Phe Asp Ala Leu
 500 505 510
 Pro Lys Leu Gly Ser Lys Glu Ser Val Glu Phe Ser Val Thr Leu Lys
 515 520 525
 Gly Ile Ala Pro Gly Asp Ala Arg Gly Glu Ala Ile Leu Ser Ser Asp
 530 535 540
 Thr Leu Thr Ser Pro Val Ser Asp Thr Glu Asn Thr His Val Tyr
 545 550 555

<210> 560

<211> 92

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0558

<400> 560

Lys Leu Met Lys Lys Ala Val Leu Ile Ala Ala Met Phe Cys Gly Val
 1 5 10 15
 Val Ser Leu Ser Ser Cys Cys Arg Ile Val Asp Cys Cys Phe Glu Asp
 20 25 30

Pro Cys Ala Pro Ser Ser Cys Asn Pro Cys Glu Val Ile Arg Lys Lys
 35 40 45
 Glu Arg Ser Cys Gly Gly Asn Ala Cys Gly Ser Tyr Val Pro Ser Cys
 50 55 60
 Ser Asn Pro Cys Gly Ser Thr Glu Cys Asn Ser Gln Ser Pro Gln Val
 65 70 75 80
 Lys Gly Cys Thr Ser Pro Asp Gly Arg Cys Lys Gln
 85 90

<210> 561
 <211> 76
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0559

<400> 561
 Gln Asn Asn Phe Val Thr Leu Lys Asn Lys Asn Glu Gly Glu Met Lys
 1 5 10 15
 Leu Phe Tyr Phe Cys Asn Ile Ile Phe Leu Thr Ser Leu Phe Ser Val
 20 25 30
 Ser Cys Thr His Thr Pro Pro Pro Arg Ser Tyr Ile Leu Ala Gln Gly
 35 40 45
 Arg Thr Pro Leu Val Asn Lys Ala His Ser Leu Glu Phe Phe Leu Ala
 50 55 60
 Arg Ser Val Phe Asn Thr Cys Tyr Asn Thr Asn Leu
 65 70 75

<210> 562
 <211> 523
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0560

<400> 562
 Arg Asn Ser Arg Phe Gln Gly Met Lys Ser Leu Trp Ser Lys Asp Lys
 1 5 10 15
 Arg Ile Met Asn Trp Glu Asn Val Arg Val Ala Pro Ser Pro
 20 25 30
 Thr Gly Asp Pro His Val Gly Thr Ala Tyr Met Ala Leu Phe Asn Glu
 35 40 45
 Ile Phe Ala Lys Arg Phe Lys Gly Lys Met Ile Leu Arg Ile Glu Asp
 50 55 60
 Thr Asp Arg Thr Arg Ser Arg Gln Asp Tyr Glu Glu Asn Ile Phe Ser
 65 70 75 80
 Ala Leu Arg Trp Cys Gly Ile Gln Trp Asp Glu Gly Pro Asp Val Gly
 85 90 95
 Gly Pro Tyr Gly Pro Tyr Arg Gln Ser Glu Arg Thr Lys Ile Tyr Gln
 100 105 110
 Gly Tyr Val Glu Thr Leu Leu Lys Thr Asp Cys Ala Tyr Lys Cys Phe
 115 120 125
 Ala Thr Pro Gln Glu Leu Ala Glu Met Arg Ala Val Ala Ser Thr Leu
 130 135 140
 Gly Tyr Arg Gly Gly Tyr Asp Arg Arg Tyr Arg Tyr Leu Ser Pro Glu
 145 150 155 160
 Glu Val Ala Ser Arg Glu Ala Ala Gly Gln Pro Tyr Thr Ile Arg Leu
 165 170 175

Lys Val Pro Leu Ser Gly Glu Cys Val Phe Glu Asp Tyr Ser Lys Gly
 180 185 190
 Arg Val Val Phe Pro Trp Ala Asp Val Asp Asp Gln Val Leu Val Lys
 195 200 205
 Ser Asp Gly Phe Pro Thr Tyr His Phe Ala Asn Val Ile Asp Asp His
 210 215 220
 Leu Met Gly Ile Thr His Val Leu Arg Gly Glu Glu Trp Leu Ser Ser
 225 230 235 240
 Thr Pro Lys His Leu Leu Leu Tyr Glu Ala Phe Gly Trp Glu Pro Pro
 245 250 255
 Val Phe Leu His Met Pro Leu Leu Leu Asn Pro Asp Gly Thr Lys Leu
 260 265 270
 Ser Lys Arg Lys Asn Pro Thr Ser Ile Phe Tyr Tyr Arg Asp Ser Gly
 275 280 285
 Tyr Val Lys Glu Ala Phe Val Asn Phe Leu Thr Leu Met Gly Tyr Ser
 290 295 300
 Met Glu Gly Asp Glu Glu Val Tyr Ser Leu Glu Arg Ile Ile Glu Thr
 305 310 315 320
 Phe Asn Pro Arg Arg Ile Gly Lys Ser Gly Ala Val Phe Asp Ile Gln
 325 330 335
 Lys Leu Asp Trp Met Asn Lys His Tyr Leu Asn His Glu Gly Ser Pro
 340 345 350
 Glu Cys Leu Leu Lys Glu Leu Gln Gly Trp Leu Leu Asn Asp Glu Phe
 355 360 365
 Phe Leu Lys Ile Leu Pro Leu Cys Gln Ser Arg Ile Thr Thr Leu Ala
 370 375 380
 Glu Phe Ile Asn Leu Thr Ser Phe Phe Phe Ser Gly Leu Leu Glu Tyr
 385 390 395 400
 Arg Val Glu Glu Leu Leu Pro Gln Ala Leu Ser Pro Glu Lys Ala Ala
 405 410 415
 Ile Leu Leu Tyr Ser Tyr Val Lys Tyr Leu Glu Lys Thr Asp Gln Trp
 420 425 430
 Thr Lys Glu Thr Cys Tyr Leu Gly Ser Lys Trp Leu Ala Gln Ala Phe
 435 440 445
 Asn Val His His Lys Lys Ala Ile Ile Pro Leu Leu Tyr Val Ala Ile
 450 455 460
 Thr Gly Lys Lys Gln Gly Leu Pro Leu Phe Asp Ser Ile Glu Ile Leu
 465 470 475 480
 Gly Lys Pro Arg Ala Arg Ala Arg Leu Val Tyr Ala Glu Lys Leu Leu
 485 490 495
 Gly Gly Val Pro Lys Lys Leu Ala Ala Thr Val Asp Lys Phe Met Gln
 500 505 510
 Arg Glu Asp Phe Glu Glu Ala Thr Phe Asp Leu
 515 520

<210> 563
 <211> 179
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0561

<400> 563
 Leu Met Ala Cys Glu Gln His Glu Gly Cys Tyr Glu Leu Glu Glu Arg
 1 5 10 15
 Glu Glu Ile Glu Asp Ile Lys Asp Ser Asp Thr Lys Trp Val Ser Ile
 20 25 30
 Thr Gln Ala Ala Lys Leu His Asn Val Thr Arg Gln Ala Ile Tyr Val
 35 40 45

Ala Ile Lys Gln Lys Lys Leu Lys Ala Ser Lys Glu Thr Arg Trp Glu
50 55 60
Ile Asp Ile Lys Asp Leu Glu Glu Tyr Lys Arg Asn Arg Tyr Ser Arg
65 70 75 80
Lys Lys Ser Leu Tyr Gln Gly Glu Leu Val Phe Asp Asn Gly Lys Gly
85 90 95
Cys Tyr Ser Ile Asn Gln Val Ala Gln Ile Leu Gly Ile Pro Val Gln
100 105 110
Lys Val Tyr Tyr Ala Thr Arg Thr Gly Thr Ile Arg Gly Glu Arg Lys
115 120 125
Gly Ala Ala Trp Val Ile His Val Ser Glu Ile Glu Arg Tyr Lys Asn
130 135 140
Glu Tyr Leu Ser Lys Gln Ala Ala Lys Lys Leu Lys Gly Ala Glu Pro
145 150 155 160
Lys Glu His Gln Ala Pro Asn Phe Glu Pro Pro Thr Glu Ile Phe Pro
165 170 175
Glu Ser Asn

<210> 564
<211> 378
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0562

<400> 564
Asn Tyr Lys Val Ile Met Ser Ile Ala Ile Ala Arg Glu Gln Tyr Ala
1 5 10 15
Ala Ile Leu Asp Met His Pro Lys Pro Ser Ile Ala Met Phe Ser Ser
20 25 30
Glu Gln Ala Arg Thr Ser Trp Glu Lys Arg Gln Ala His Pro Tyr Leu
35 40 45
Tyr Arg Leu Leu Glu Ile Ile Trp Gly Val Val Lys Phe Leu Leu Gly
50 55 60
Leu Ile Phe Phe Ile Pro Leu Gly Leu Phe Trp Val Leu Gln Lys Ile
65 70 75 80
Cys Gln Asn Phe Ile Leu Leu Gly Ala Gly Gly Trp Ile Phe Arg Pro
85 90 95
Ile Cys Arg Asp Ser Asn Leu Leu Arg Gln Ala Tyr Ala Ala Arg Leu
100 105 110
Phe Ser Ala Ser Phe Gln Asp His Val Ser Ser Val Arg Arg Val Cys
115 120 125
Leu Gln Tyr Asp Glu Val Phe Ile Asp Gly Leu Glu Leu Arg Leu Pro
130 135 140
Asn Ala Lys Pro Asp Arg Trp Met Leu Ile Ser Asn Gly Asn Ser Asp
145 150 155 160
Cys Leu Glu Tyr Arg Thr Val Leu Gln Gly Glu Lys Asp Trp Ile Phe
165 170 175
Arg Ile Ala Glu Glu Ser Gln Ser Asn Ile Leu Ile Phe Asn Tyr Pro
180 185 190
Gly Val Met Lys Ser Gln Gly Asn Ile Thr Arg Asn Asn Val Val Lys
195 200 205
Ser Tyr Gln Ala Cys Val Arg Tyr Leu Arg Asp Glu Pro Ala Gly Pro
210 215 220
Gln Ala Arg Gln Ile Val Ala Tyr Gly Tyr Ser Leu Gly Ala Ser Val
225 230 235 240
Gln Ala Glu Ala Leu Ser Lys Glu Ile Ala Asp Gly Ser Asp Ser Val
245 250 255

Arg Trp Phe Val Val Lys Asp Arg Gly Ala Arg Ser Thr Gly Ala Val
 260 265 270
 Ala Lys Gln Phe Ile Gly Ser Leu Gly Val Trp Leu Ala Asn Leu Thr
 275 280 285
 His Trp Asn Ile Asn Ser Glu Lys Arg Ser Lys Asp Leu His Cys Pro
 290 295 300
 Glu Leu Phe Ile Tyr Gly Lys Asp Ser Gln Gly Asn Leu Ile Gly Asp
 305 310 315 320
 Gly Leu Phe Lys Lys Glu Thr Cys Phe Ala Ala Pro Phe Leu Asp Pro
 325 330 335
 Lys Asn Leu Glu Glu Cys Ser Gly Lys Lys Ile Pro Val Ala Gln Thr
 340 345 350
 Gly Leu Arg His Asp His Ile Leu Ser Asp Asp Val Ile Lys Glu Val
 355 360 365
 Ala Gly His Ile Gln Arg His Phe Asp Asn
 370 375

<210> 565
 <211> 607
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0563

<400> 565
 Gln Tyr Lys Asn Leu Leu Trp Asp Phe Ser Pro Lys Gly Pro Cys Gly
 1 5 10 15
 Ile Lys Phe Met Thr Asn Ser Asp Asn Ala Ser Ala Ala Gly Leu Leu
 20 25 30
 Trp Ala His Pro Lys Glu Asp Pro Ala Phe Leu Gly Met Ile Ile Lys
 35 40 45
 Glu Phe His Leu Pro Pro Thr Val Ala Gln Ile Phe Ile Ser Arg Gly
 50 55 60
 Phe Gln Thr Ile Gln Glu Ile His Lys Phe Leu Tyr Ser His Leu Ser
 65 70 75 80
 Ser Leu Tyr Asp Pro Gly Leu Phe Leu Asp Met Ser Lys Ala Val Glu
 85 90 95
 Arg Leu Leu Leu Ala Arg Asp Arg Lys Glu His Val Met Ile Tyr Gly
 100 105 110
 Asp Ser Asp Val Asp Gly Met Thr Gly Val Ala Leu Leu Val Glu Phe
 115 120 125
 Leu Arg Asp Ile Asp Val His Val Ser Tyr Phe Phe Leu Gly Ala Ile
 130 135 140
 Leu Lys Gln His Gly Glu Thr Ser Thr Leu Ile Ala Lys Leu Lys Glu
 145 150 155 160
 Glu Gly Ile Thr Leu Leu Ile Thr Val Asp Cys Gly Ile Thr Ala Gly
 165 170 175
 Lys Glu Val Ser Asp Ile Thr Arg Gln Gly Ile Asp Val Ile Ile Thr
 180 185 190
 Asp His His Met Pro Thr Gly Lys Ile Pro His Cys Val Ala Thr Leu
 195 200 205
 Asn Pro Lys Leu Arg Asp His Thr Tyr Pro Asn Arg Glu Leu Thr Gly
 210 215 220
 Val Gly Val Ala Phe Lys Leu Ala Arg Gly Val Leu Asn Ala Leu Ile
 225 230 235 240
 Ser Arg Asn Leu Val Pro Lys Ser Gln Gly Ser Leu Lys Lys Leu Leu
 245 250 255
 Asp Leu Val Thr Leu Gly Thr Ile Thr Asp Val Gly Val Leu Leu Gly
 260 265 270

Glu Asn Arg Val Met Val Arg Tyr Gly Ile Lys Glu Ile Ala Arg Gly
 275 280 285
 Ala Arg Pro Gly Leu Asn Lys Leu Cys Ala Leu Cys Gly Val Glu Lys
 290 295 300
 Ser Glu Val Thr Ser Thr Asp Ile Val Leu Lys Ile Ala Pro Lys Leu
 305 310 315 320
 Asn Ser Leu Gly Arg Leu Asp Asp Pro Ala Lys Gly Val Glu Leu Leu
 325 330 335
 Leu Thr Gln Asp Asp Glu Arg Val Asp Ala Leu Ile Met Glu Leu Asp
 340 345 350
 Asn Ile Asn Arg Glu Arg Gln Arg Ile Glu Ala Glu Val Phe Gln Asp
 355 360 365
 Val Gln Glu Ile Leu Asn Ser Asn Pro Glu Ile Leu Lys Gln Ala Ala
 370 375 380
 Ile Val Leu Ser Ser Thr Ala Trp His Ala Arg Val Ile Pro Ile Ile
 385 390 395 400
 Ser Ala Arg Leu Ala Lys Thr Tyr Asn Lys Pro Val Val Ile Ile Ala
 405 410 415
 Ile Gln Arg Gly Ile Gly Lys Gly Ser Ala Arg Thr Ile Gly Ser Phe
 420 425 430
 Pro Leu Leu Gly Val Leu Lys Lys Cys Ser Ser Leu Leu Leu Ser Tyr
 435 440 445
 Gly Gly His Asp Phe Ala Ala Gly Val Ile Met Lys Glu Asp Lys Val
 450 455 460
 Glu Asp Phe Lys Lys Lys Phe Val His Leu Val Asn Ser Ser Leu Lys
 465 470 475 480
 Lys Gly Asp Thr Leu Pro His Leu Glu Ile Asp Ala Tyr Ala Asp Phe
 485 490 495
 Asp Ala Ile Asp Tyr Asp Leu Leu Ala Ser Met Glu Leu Phe Glu Pro
 500 505 510
 Phe Gly Lys Gly Asn Leu Met Pro Ile Phe Tyr Ser Lys Val Arg Gln
 515 520 525
 Val Arg Tyr Pro Lys Val Leu Pro Gly Asn His Leu Lys Leu Tyr Leu
 530 535 540
 Ser Gln Lys Glu Arg Asn Leu Glu Gly Val Ala Phe Gly Leu Gly Arg
 545 550 555 560
 His Ala Asp Ala Leu Lys Ala Ser Trp His Tyr Pro Leu Glu Ile Ala
 565 570 575
 Tyr Thr Pro Arg Leu Ser Gln Thr Ser Gly Ser Gly Val Ile His Leu
 580 585 590
 Leu Val Arg Asp Phe Arg Ile Ser Ser Glu Pro Arg Phe Ser Asp
 595 600 605

<210> 566
 <211> 1405
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0564

<400> 566
 Ser Gly Ala Met Lys Gln Lys Val Lys Arg Asn Phe Ala Ile Ile Ile
 1 5 10 15
 Cys Val Phe Ala Leu Ala Leu Tyr Tyr Val Leu Pro Thr Cys Leu Tyr
 20 25 30
 Tyr Ala Lys Pro Leu Asp Lys Lys Ile Asp Gly Asn Glu Ala Glu His
 35 40 45
 Ile Ile Lys Ser Phe Thr Lys Gln Ala Gln Gln Val Arg Lys Asp Val
 50 55 60

Ile Pro Arg Val Ser Ala Ile Leu Ser Ser Leu His Leu Arg Gly His
 65 70 75 80
 Ile Gln Gln His Pro Ala Ile Pro Asp Ile Val Ser Val Arg Phe Lys
 85 90 95
 Arg Gly Glu Asp Ala Glu Asp Phe Ile Gly Asn Leu Val His Gly Glu
 100 105 110
 Pro Asn Val Pro Ile Lys Ser Ala Arg Leu His Val Val Gly Tyr Ser
 115 120 125
 Arg Glu His Asp Asp His Val Ile Gln Val Ala Ser Ser Ile Asn Thr
 130 135 140
 Ser Leu Val Glu Ser Asp Phe Ser Phe Val Ser Tyr Ser Ser Glu Asn
 145 150 155 160
 Glu Gln Glu Met Ala Ser Ser Ile Leu Gln Arg Val Tyr Ser Ala Cys
 165 170 175
 Thr Phe Pro Lys Gln Lys Asp Cys Ser Cys Ser Tyr Pro Ser Ile Trp
 180 185 190
 Glu Thr Ala Pro Lys Glu Gln Leu Leu Gln Tyr Ala Lys Asn Leu Ser
 195 200 205
 Ser Gly Phe Glu Val Phe Ser Ser Arg Leu Ser Ala Phe Cys Gln Gln
 210 215 220
 Ser Phe Ser Ser Asn Gln Asp Arg Leu Ala Phe Leu Ser Arg Leu Ser
 225 230 235 240
 Ser Leu Ser Asn Asp Ala Ala Ile Asp Val Glu Asp Gln Lys Leu Leu
 245 250 255
 Lys Ser Val Tyr Glu Thr Leu Ser Gln Thr Ala Cys Ile Arg Ser Leu
 260 265 270
 Asp Cys Pro Tyr Ile Glu Gly Leu Arg Leu Asp Cys Ser Glu Ser Ser
 275 280 285
 Leu Phe Phe Ser Ser Ile Glu Tyr Cys Pro Lys Glu Arg Lys Ile Phe
 290 295 300
 Leu Thr Leu His Ser Asp Leu Leu Ala Gln Arg Thr Ser Leu Ser Lys
 305 310 315 320
 Glu Gln Arg Leu Asp Phe Asp Ser Arg Leu Ala Val Glu Lys Gln Lys
 325 330 335
 Leu Ser Lys Asn Leu Thr Val Gln Val Glu Asp Tyr Asn Asn Gly Phe
 340 345 350
 Ser Phe Gln Trp Met Asp Lys Asp Thr Gln Gly Lys Ile Ile Leu Gln
 355 360 365
 Gly Glu Arg Leu Leu Gln Gly Ile Ala Glu His Leu Thr Ala Leu Thr
 370 375 380
 Leu His Arg Pro Ala Ala Glu Ser Cys Asp Leu Ile Pro Glu Asn Phe
 385 390 395 400
 Pro Val Phe Cys Arg Gln Pro Arg Glu Ser Glu Ala Phe Gly Cys Tyr
 405 410 415
 Ile Phe Ser Pro Asn Thr Asp Cys Lys His Phe Ser Lys Gly Ser Val
 420 425 430
 Tyr Ile Leu Leu Lys Gly Leu Arg Ser Ile Val Ala Lys Tyr Gln Gln
 435 440 445
 Gly Gly Gly Lys Glu Leu Gln Ser Phe Glu Lys Asp Leu Gln Asn Leu
 450 455 460
 Tyr Asn Cys Phe Ser His Thr Glu Ala Ile Ser Trp Thr Leu Gly Glu
 465 470 475 480
 Asp Gln Val Leu Glu Ile Arg His Pro Leu Gln Gln Phe Leu Asp Val
 485 490 495
 Trp Gly Glu Gly Phe Val Ile Gly Lys Glu Gly Cys Ala Phe Leu Glu
 500 505 510
 Val Lys Asp Ile Gln Asp Arg Leu Ala Thr Val Asn Gln Ile Glu Lys
 515 520 525
 Asn Arg Gln Ser Asp Leu Val Arg Trp His Glu Gln Tyr Arg His Ala
 530 535 540

Lys Cys Ser Met Asp Leu Gln Glu Arg Leu Ser Ala Pro Ile Pro Tyr
 545 550 555 560
 Gln Asn Leu Phe Leu Glu Asn Met Lys Leu Asn Met Arg Lys Phe Ser
 565 570 575
 Arg Gly Glu Asn Ile Leu Arg Leu Gly Ile Asp Phe Val Gly Gly Arg
 580 585 590
 Gln Leu Leu Ser Phe Lys Asp His Gln Gly Lys Gln Leu Thr Asp
 595 600 605
 Lys Glu Asp Ile Leu Lys Val Ser Asp Glu Leu Cys Ala Arg Leu Asn
 610 615 620
 Lys Leu Gly Val Ser Glu Ile Glu Leu Arg Arg Glu Gly Asp Tyr Ile
 625 630 635 640
 His Leu Ser Val Pro Gly Ser Ser Thr Ile Ser Ser Ser Glu Ile Leu
 645 650 655
 Gly Thr Ser Lys Met Ser Phe His Val Val Asn Glu Arg Phe Ser Ser
 660 665 670
 Tyr Ser Ala Ser Arg Tyr Glu Val Gln Arg Phe Leu Asp Tyr Leu Trp
 675 680 685
 Phe Thr Ser Gln Ala Gln Gly Lys Thr Ser Pro Glu Glu Ile Asn Thr
 690 695 700
 Phe Ala Ser Ala Leu Phe Asn Glu Glu Val Asp Val Pro Pro Ser Val
 705 710 715 720
 His Glu Ala Ile Thr Lys Leu Lys Ser Glu Gly Leu Ala Phe Ser Pro
 725 730 735
 Ser Gly Cys Glu Thr Pro Ser Thr Asp Leu Asp Thr Thr Phe Ser Met
 740 745 750
 Ile Ala Ile Gly Lys Asp Ala Glu Gln Lys Ala Asn Pro Leu Val Ile
 755 760 765
 Val Phe Arg Asn Tyr Ala Leu Asp Gly Ala Ser Leu Lys Asp Ile Arg
 770 775 780
 Pro Glu Phe Ala Ala Gly Glu Gly Tyr Val Leu Asn Phe Ser Val Lys
 785 790 795 800
 Asp Thr Ser Pro Lys Lys Met Ala Glu Lys Leu Ser Pro Thr Glu Ser
 805 810 815
 Phe His Thr Trp Thr Ser Ala Tyr Cys Gln Glu Gly Ile Ser Gly Thr
 820 825 830
 Ala Asn Gly Gln Tyr Ser Ala Asn Arg Gly Trp Arg Met Ala Val Val
 835 840 845
 Ile Asp Gly Tyr Met Val Ser Ser Pro Ile Leu Asn Val Pro Leu Lys
 850 855 860
 Asn His Ala Ser Val Ser Gly Lys Phe Thr His Arg Glu Val Ser Lys
 865 870 875 880
 Leu Ala Ser Asp Leu Lys Ser Gly Ala Met Ser Phe Val Pro Glu Val
 885 890 895
 Leu Ser Glu Glu Thr Ile Ser Ser Asp Leu Gly Lys Lys Gln Cys Thr
 900 905 910
 Gln Gly Ile Ile Ser Ala Cys Cys Gly Leu Ala Met Leu Ile Val Leu
 915 920 925
 Met Ser Val Tyr Tyr Arg Phe Gly Gly Val Ile Ala Ser Gly Ala Val
 930 935 940
 Leu Leu Asn Leu Leu Leu Ile Trp Ala Ala Leu Gln Tyr Leu Asp Ala
 945 950 955 960
 Pro Leu Thr Leu Ser Gly Leu Ala Gly Ile Val Leu Ala Met Gly Met
 965 970 975
 Ala Val Asp Ala Asn Val Leu Val Phe Glu Arg Ile Arg Glu Glu Phe
 980 985 990
 Leu Leu Ser Gln Ser Leu Lys Lys Ser Val Glu Lys Gly Tyr Thr Lys
 995 1000 1005
 Ala Phe Gly Ala Ile Phe Asp Ser Asn Leu Thr Thr Val Leu Ala Ser
 1010 1015 1020

Ala Leu Leu Phe Phe Leu Asp Thr Gly Pro Ile Lys Gly Phe Ala Leu
 1025 1030 1035 1040
 Thr Leu Ile Leu Gly Ile Phe Ser Ser Met Phe Thr Ala Leu Phe Met
 1045 1050 1055
 Thr Lys Phe Phe Met Leu Trp Met Asn Lys Thr Gln His Thr Gln
 1060 1065 1070
 Leu His Met Met Asn Lys Phe Val Gly Ile Lys His Asp Phe Leu Arg
 1075 1080 1085
 Gly Cys Lys Lys Leu Trp Ala Val Ser Gly Ser Val Phe Leu Leu Gly
 1090 1095 1100
 Cys Val Ala Leu Gly Phe Gly Ala Trp Asn Ser Val Leu Gly Met Asp
 1105 1110 1115 1120
 Phe Lys Gly Gly Tyr Ala Phe Thr Phe Asn Pro Lys Glu His Gly Ile
 1125 1130 1135
 Ser Asp Val Ala Gln Met Arg Gly Lys Val Val His Lys Leu Gln Glu
 1140 1145 1150
 Ala Gly Leu Ser Ser Arg Asp Phe Arg Ile Gln Thr Phe Gly Ser Ser
 1155 1160 1165
 Glu Lys Ile Lys Ile Tyr Phe Ser Asp Lys Ala Leu Ser Tyr Thr Lys
 1170 1175 1180
 Ala Asp Thr Ser Leu Ser Pro Lys Ile Asn Asp His Glu Leu Ala Leu
 1185 1190 1195 1200
 Ala Val Gly Leu Leu Ser Glu Thr Gly Leu Asp Phe Ser Thr Glu Thr
 1205 1210 1215
 Leu Asn Glu Thr Gln Asn Phe Trp Ser Lys Val Ser Ser Lys Leu Ser
 1220 1225 1230
 Lys Lys Met Arg Tyr Gln Ala Thr Ile Gly Leu Leu Gly Ala Leu Ala
 1235 1240 1245
 Ile Ile Leu Leu Tyr Val Ser Leu Arg Phe Glu Trp Gln Tyr Ala Phe
 1250 1255 1260
 Ser Ala Val Cys Ala Leu Ile His Asp Leu Leu Ala Thr Cys Ala Val
 1265 1270 1275 1280
 Leu Phe Ile Ala His Phe Phe Leu Lys Lys Ile Gln Ile Asp Leu Gln
 1285 1290 1295
 Ala Ile Gly Ala Leu Met Thr Val Leu Gly Tyr Ser Leu Asn Asn Thr
 1300 1305 1310
 Leu Ile Ile Phe Asp Arg Ile Arg Glu Asp Arg Gln Ala Asn Leu Phe
 1315 1320 1325
 Thr Pro Met His Val Leu Val Asn Asp Ala Leu Gln Lys Thr Phe Ser
 1330 1335 1340
 Arg Thr Val Met Thr Thr Ala Thr Thr Leu Ser Val Leu Leu Met Leu
 1345 1350 1355 1360
 Leu Phe Ile Gly Gly Ser Ser Val Phe Asn Phe Ala Phe Ile Met Thr
 1365 1370 1375
 Ile Gly Ile Leu Leu Gly Thr Leu Ser Ser Leu Tyr Ile Ala Pro Pro
 1380 1385 1390
 Leu Leu Leu Phe Met Val Arg Lys Glu Asn Arg Ser Lys
 1395 1400 1405

<210> 567
 <211> 403
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0565

<400> 567
 Asn Lys Leu Phe Cys Phe Leu Ile Phe Cys Phe Val Asn Ile Ser Ala
 1 5 10 15

<400> 568

Glu	Arg	Ile	Val	Thr	Tyr	Ala	Leu	Ile	Asn	Asp	Pro	Val	Asp	Leu	Ser
1				5					10					15	
Leu	Ala	Thr	Asn	Asn	Ala	Glu	Ser	Lys	Phe	Pro	Ser	Leu	Gln	Arg	Leu
			20					25					30		
Pro	Asn	His	Val	Ala	Ile	Ile	Met	Asp	Gly	Asn	Arg	Arg	Trp	Tyr	Lys
		35					40					45			
Lys	His	Arg	Glu	Glu	Cys	Gly	His	Thr	His	Thr	Ser	Gly	His	Tyr	Tyr
	50					55					60				
Gly	Ala	Lys	Val	Leu	Pro	Asn	Ile	Leu	Asn	Ala	Val	Leu	Asp	Leu	Gly
65					70					75				80	
Ile	Lys	Val	Leu	Thr	Leu	Tyr	Thr	Phe	Ser	Thr	Glu	Asn	Phe	Gly	Arg
				85					90					95	
Pro	Lys	Glu	Glu	Ile	Gln	Glu	Ile	Phe	Asn	Ile	Phe	Tyr	Thr	Gln	Leu
			100					105						110	
Asp	Lys	Gln	Leu	Pro	Tyr	Leu	Met	Glu	Asn	Glu	Ile	Cys	Leu	Arg	Cys
		115					120					125			
Ile	Gly	Asp	Leu	Ser	Lys	Leu	Pro	Lys	Gly	Ile	Gln	Thr	Lys	Ile	Asn
	130					135					140				
His	Val	Ser	Arg	Met	Thr	Ala	Ser	Phe	Ser	Arg	Leu	Glu	Leu	Val	Leu
145					150					155					160
Ala	Val	Asn	Tyr	Gly	Gly	Lys	Asp	Glu	Leu	Val	Arg	Ala	Phe	Lys	Lys
				165					170					175	
Leu	His	Val	Asp	Ile	Leu	Asn	Lys	Lys	Ile	Ser	Ser	Asp	Asp	Leu	Ser
			180					185					190		
Glu	Ser	Leu	Ile	Ser	Ser	Tyr	Leu	Asp	Thr	Ser	Gly	Leu	Thr	Asp	Pro
		195					200					205			
Asp	Leu	Leu	Ile	Arg	Thr	Gly	Gly	Glu	Met	Arg	Val	Ser	Asn	Phe	Leu
	210					215					220				
Leu	Trp	Gln	Ile	Ala	Tyr	Thr	Glu	Leu	Tyr	Ile	Thr	Asp	Thr	Leu	Trp
225				230						235				240	
Pro	Asp	Phe	Thr	Pro	Gln	Asp	Leu	Phe	Glu	Ala	Ile	Asn	Val	Tyr	Gln
				245					250					255	
Gln	Arg	Ser	Arg	Arg	Gly	Gly	Lys								
				260											

<210> 569
 <211> 308
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0567

<400> 569

Val	Leu	Asn	Ser	Asn	Lys	Phe	Lys	Ser	Lys	Thr	Gly	Ala	Tyr	Gly	Asp
1				5					10					15	
Leu	Phe	Gln	Arg	Val	Val	Val	His	Ser	Leu	Val	Leu	Thr	Phe	Leu	Val
			20					25					30		
Leu	Leu	Leu	Tyr	Ser	Ser	Leu	Phe	Pro	Leu	Thr	Ser	Phe	Ala	Leu	Gly
		35					40					45			
Phe	Ile	Thr	Ala	Thr	Cys	Gly	Ala	Val	Gly	Thr	Tyr	Glu	Tyr	Ser	Ser
	50					55					60				
Met	Ala	Lys	Ala	Lys	Met	His	Tyr	Pro	Leu	Ser	Thr	Phe	Ser	Ala	Ile
65					70					75				80	
Gly	Ser	Phe	Leu	Phe	Leu	Ala	Leu	Ser	Phe	Leu	Ser	Ile	Arg	Trp	Gly
				85					90					95	
His	Ser	Leu	Pro	Gly	Phe	Phe	Asp	Ala	Leu	Pro	Trp	Thr	Leu	Leu	Ile
			100					105					110		
Val	Trp	Val	Val	Trp	Ser	Ile	Phe	Arg	Val	Arg	Lys	Ser	Thr	Ile	Gly
		115						120					125		

Ala Leu Gln Leu Ser Gly Val Thr Leu Phe Ser Ile Leu Tyr Val Gly
 130 135 140
 Ile Pro Ile Arg Leu Phe Leu His Val Leu Tyr Ser Phe Ile His Thr
 145 150 155 160
 Gln Glu Pro Tyr Leu Gly Ile Trp Trp Ala Ser Phe Leu Ile Ala Thr
 165 170 175
 Thr Lys Gly Ala Asp Ile Phe Gly Tyr Phe Phe Gly Lys Ala Phe Gly
 180 185 190
 Asn Lys Lys Ile Ala Pro Gln Ile Ser Pro Asn Lys Thr Val Val Gly
 195 200 205
 Phe Val Ala Gly Cys Leu Gly Ala Thr Leu Ile Ser Phe Ile Phe Phe
 210 215 220
 Leu Gln Ile Pro Thr Arg Phe Ala Ser Tyr Phe Pro Met Pro Ala Ile
 225 230 235 240
 Leu Ile Pro Leu Gly Leu Ala Leu Gly Ile Thr Gly Phe Phe Gly Asp
 245 250 255
 Ile Ile Glu Ser Ile Phe Lys Arg Asp Ala His Leu Lys Asn Ser Asn
 260 265 270
 Lys Leu Lys Ala Val Gly Gly Met Leu Asp Thr Leu Asp Ser Leu Leu
 275 280 285
 Leu Ser Thr Pro Ile Ala Tyr Leu Phe Leu Leu Ile Thr Gln Ser Lys
 290 295 300
 Glu Phe Ile Gly
 305

<210> 570
 <211> 220
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0568

<400> 570
 Arg Val Tyr Trp Met Ile Ile Thr Ile Asp Gly Pro Ser Gly Thr Gly
 1 5 10 15
 Lys Ser Thr Thr Ala Lys Ala Leu Ala Asp His Leu His Phe Asn Tyr
 20 25 30
 Cys Asn Thr Gly Lys Met Tyr Arg Thr Leu Ala Tyr Ala Arg Leu Gln
 35 40 45
 Ser Pro Trp Ala Thr Leu Pro Leu Thr Lys Phe Leu Glu Glu Pro Pro
 50 55 60
 Phe Ser Phe Thr Phe Ala Thr Gly Gln Pro Leu Glu Ser Phe Phe Asn
 65 70 75 80
 Gly His Leu Leu Thr Ser Glu Leu Thr Thr Gln Glu Val Ala Asn Ala
 85 90 95
 Ala Ser Glu Leu Ser Gln Leu Pro Glu Val Arg Ala Phe Met Gln Asp
 100 105 110
 Leu Gln Arg Arg Tyr Ala Gln Leu Gly Asn Cys Val Phe Glu Gly Arg
 115 120 125
 Asp Met Gly Ser Lys Val Phe Pro Asn Ala Asp Leu Lys Ile Phe Leu
 130 135 140
 Thr Ser Ser Pro Glu Val Arg Ala Gln Arg Arg Leu Lys Asp Leu Pro
 145 150 155 160
 Glu Gly Thr Leu Ser Pro Glu Gln Leu Gln Ala Glu Leu Val Lys Arg
 165 170 175
 Asp Ala Ala Asp Ala Gln Arg Ala His Asp Pro Leu Val Ile Pro Glu
 180 185 190
 Asn Gly Ile Val Ile Asp Ser Ser Asp Leu Thr Ile Arg Gln Val Leu
 195 200 205

Glu Lys Ile Leu Ala Leu Leu Phe Arg Asn Glu Leu
 210 215 220

<210> 571
 <211> 234
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0569

<400> 571
 Leu Phe Gly Phe Asp Asn Lys Thr Ser Ser Gly Glu Asn Phe Ser Phe
 1 5 10 15
 Thr Ile Ser Lys Arg Ala Met Ile Phe Arg Ile Cys Lys Phe Phe Thr
 20 25 30
 Trp Val Ala Phe Ser Leu Phe Tyr Lys Leu Lys Val Tyr Gly Val Lys
 35 40 45
 Lys Asn Phe Ile Lys Gly Pro Ala Ile Ile Ala Val Asn His Asn Ser
 50 55 60
 Phe Leu Asp Pro Ile Ala Leu His Met Cys Val His Glu Cys Ile Tyr
 65 70 75 80
 His Leu Ala Arg Ala Ser Leu Phe Asn Ile Pro Trp Leu Trp Lys Gln
 85 90 95
 Trp Gly Cys Phe Pro Val Arg Gln Asp Glu Gly Asn Ser Ala Ala Phe
 100 105 110
 Lys Ile Ala Ser Arg Leu Phe Asn Lys Arg Lys Lys Leu Val Ile Tyr
 115 120 125
 Pro Glu Gly Ala Arg Ser Pro Asp Gly Gln Leu Gln Pro Gly Lys Val
 130 135 140
 Gly Ile Gly Met Met Ala Ala Lys Ser Arg Val Pro Ile Ile Pro Val
 145 150 155 160
 Tyr Ile Arg Gly Thr Phe Glu Ala Phe Asn Arg His Gln Lys Ile Pro
 165 170 175
 His Val Trp Lys Thr Ile Thr Cys Val Phe Gly Thr Pro Met Tyr Phe
 180 185 190
 Asp Asp Ile Ile Gln Asn Pro Glu Ile Lys Asn Lys Glu Thr Tyr Gln
 195 200 205
 Ile Ile Thr Asn Gln Thr Met Asn Lys Ile Ala Glu Leu Lys Ala Trp
 210 215 220
 Tyr Glu Ser Gly Cys Lys Gly Asp Val Pro
 225 230

<210> 572
 <211> 582
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0570

<400> 572
 Thr Lys Leu Pro Ser Ser Lys His Gly Met Asn Arg Gly Ala Lys Glu
 1 5 10 15
 Thr Ser Pro Lys Leu Met Ser Thr Leu Leu Ser Ile Leu Ser Val Ile
 20 25 30
 Cys Ser Gln Ala Ile Ala Lys Ala Phe Pro Asn Leu Glu Asp Trp Ala
 35 40 45
 Pro Glu Ile Thr Pro Ser Thr Lys Glu His Phe Gly His Tyr Gln Cys
 50 55 60

Asn Asp Ala Met Lys Leu Ala Arg Val Leu Lys Lys Ala Pro Arg Ala
 65 70 75 80
 Ile Ala Glu Ala Ile Val Ala Glu Leu Pro Gln Glu Pro Phe Ser Leu
 85 90 95
 Ile Glu Ile Ala Gly Ala Gly Phe Ile Asn Phe Thr Phe Ser Pro Val
 100 105 110
 Phe Leu Asn Gln Gln Leu Glu His Phe Lys Asp Ala Leu Lys Leu Gly
 115 120 125
 Phe Gln Val Ser Gln Pro Lys Lys Ile Ile Ile Asp Phe Ser Ser Pro
 130 135 140
 Asn Ile Ala Lys Asp Met His Val Gly His Leu Arg Ser Thr Ile Ile
 145 150 155 160
 Gly Asp Ser Leu Ala Arg Ile Phe Ser Tyr Val Gly His Asp Val Leu
 165 170 175
 Arg Leu Asn His Ile Gly Asp Trp Gly Thr Ala Phe Gly Met Leu Ile
 180 185 190
 Thr Tyr Leu Gln Glu Asn Pro Cys Asp Tyr Ser Asp Leu Glu Asp Leu
 195 200 205
 Thr Ser Leu Tyr Lys Lys Ala Tyr Val Cys Phe Thr Asn Asp Glu Glu
 210 215 220
 Phe Lys Lys Arg Ser Gln Gln Asn Val Val Ala Leu Gln Ala Lys Asp
 225 230 235 240
 Pro Gln Ala Ile Ala Ile Trp Glu Lys Ile Cys Glu Thr Ser Glu Lys
 245 250 255
 Ala Phe Gln Lys Ile Tyr Asp Ile Leu Asp Ile Val Val Glu Lys Arg
 260 265 270
 Gly Glu Ser Phe Tyr Asn Pro Phe Leu Pro Glu Ile Ile Glu Asp Leu
 275 280 285
 Glu Lys Lys Gly Leu Leu Thr Val Ser Asn Asp Ala Lys Cys Val Phe
 290 295 300
 His Glu Ala Phe Ser Ile Pro Phe Met Val Gln Lys Ser Asp Gly Gly
 305 310 315 320
 Tyr Asn Tyr Ala Thr Thr Asp Leu Ala Ala Met Arg Tyr Arg Ile Glu
 325 330 335
 Glu Asp His Ala Asp Lys Ile Ile Ile Val Thr Asp Leu Gly Gln Ser
 340 345 350
 Leu His Phe Gln Leu Leu Glu Ala Thr Ala Ile Ala Ala Gly Tyr Leu
 355 360 365
 Gln Pro Gly Ile Phe Ser His Val Gly Phe Gly Leu Val Leu Asp Pro
 370 375 380
 Gln Gly Lys Lys Leu Lys Thr Arg Ser Gly Glu Asn Val Lys Leu Arg
 385 390 395 400
 Glu Leu Leu Asp Thr Ala Ile Glu Lys Ala Glu Glu Ala Leu Arg Glu
 405 410 415
 His Arg Pro Glu Leu Thr Asp Glu Ala Ile Gln Glu Arg Ala Pro Val
 420 425 430
 Ile Gly Ile Asn Ala Ile Lys Tyr Ser Asp Leu Ser Ser His Arg Thr
 435 440 445
 Ser Asp Tyr Val Phe Ser Phe Glu Lys Met Leu Arg Phe Glu Gly Asn
 450 455 460
 Thr Ala Met Phe Leu Leu Tyr Ala Tyr Val Arg Ile Gln Gly Ile Lys
 465 470 475 480
 Arg Arg Leu Gly Ile Ser Gln Leu Ser Leu Glu Gly Pro Pro Glu Ile
 485 490 495
 Gln Glu Pro Ala Glu Glu Leu Leu Ala Leu Thr Leu Leu Arg Phe Pro
 500 505 510
 Glu Ala Leu Glu Ser Thr Ile Lys Glu Leu Cys Pro His Phe Leu Thr
 515 520 525
 Asp Tyr Leu Tyr Asn Leu Thr His Lys Phe Asn Gly Phe Phe Arg Asp
 530 535 540

Ser His Ile Gln Asp Ser Pro Tyr Ala Lys Ser Arg Leu Phe Leu Cys
 545 550 555 560
 Ala Leu Ala Glu Gln Val Leu Ala Thr Gly Met His Leu Leu Gly Leu
 565 570 575
 Lys Thr Leu Glu Arg Leu
 580

<210> 573
 <211> 477
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0571

<400> 573
 Thr Phe Glu Lys Val Asn Val Ser Phe Ser Asp Phe Asp Ala Lys Gly
 1 5 10 15
 Glu Arg Arg Met Gln Ile Ala Gln Val Phe Gly Cys Gly Arg Leu Asn
 20 25 30
 Gly Glu Val Lys Val Ser Gly Ala Lys Asn Ala Ala Thr Lys Leu Leu
 35 40 45
 Val Ala Ser Leu Leu Ser Asp Gln Lys Cys Thr Leu Arg Asn Val Pro
 50 55 60
 Asp Ile Gly Asp Val Ser Leu Thr Val Glu Leu Cys Lys Ser Leu Gly
 65 70 75 80
 Ala His Val Ser Trp Asp Lys Glu Thr Glu Val Leu Glu Ile Tyr Thr
 85 90 95
 Pro Glu Ile Gln Cys Thr Arg Val Pro Pro Thr Phe Ser Asn Val Asn
 100 105 110
 Arg Ile Pro Ile Leu Leu Leu Gly Ala Leu Leu Gly Arg Cys Pro Glu
 115 120 125
 Gly Val Tyr Val Pro Thr Val Gly Gly Asp Ala Ile Gly Glu Arg Thr
 130 135 140
 Leu Asn Phe His Phe Glu Gly Leu Lys Gln Leu Gly Val Gln Ile Ser
 145 150 155 160
 Ser Asp Ser Ser Gly Tyr Tyr Ala Lys Ala Pro Arg Gly Leu Lys Gly
 165 170 175
 Asn Tyr Ile His Leu Pro Tyr Pro Ser Val Gly Ala Thr Glu Asn Leu
 180 185 190
 Ile Leu Ala Ala Ile His Ala Lys Gly Arg Thr Val Ile Lys Asn Val
 195 200 205
 Ala Leu Glu Ala Glu Ile Leu Asp Leu Val Leu Phe Leu Gln Lys Ala
 210 215 220
 Gly Ala Asp Ile Thr Thr Asp Asn Asp Arg Thr Ile Asp Ile Phe Gly
 225 230 235 240
 Thr Gly Gly Leu Gly Ser Val Asp His Thr Ile Leu Pro Asp Lys Ile
 245 250 255
 Glu Ala Ala Ser Phe Gly Met Ala Ala Val Val Ser Gly Gly Arg Val
 260 265 270
 Phe Val Arg Asn Ala Lys Gln Glu Leu Leu Ile Pro Phe Leu Lys Met
 275 280 285
 Leu Arg Ser Ile Gly Gly Gly Phe Leu Val Ser Glu Ser Gly Ile Glu
 290 295 300
 Phe Phe Gln Glu Arg Pro Leu Val Gly Gly Val Val Leu Glu Thr Asp
 305 310 315 320
 Val His Pro Gly Phe Leu Thr Asp Trp Gln Gln Pro Phe Ala Val Leu
 325 330 335
 Leu Ser Gln Ala Gln Gly Ser Ser Val Ile His Glu Thr Val His Glu
 340 345 350

Asn Arg Leu Gly Tyr Leu His Gly Leu Gln His Met Gly Ala Glu Cys
 355 360 365
 Gln Leu Phe His Gln Cys Leu Ser Thr Lys Ala Cys Arg Tyr Ala Ile
 370 375 380
 Gly Asn Phe Pro His Ser Ala Val Ile His Gly Ala Thr Pro Leu Trp
 385 390 395 400
 Ala Ser His Leu Val Ile Pro Asp Leu Arg Ala Gly Phe Ala Tyr Val
 405 410 415
 Met Ala Ala Leu Ile Ala Glu Gly Gly Gly Ser Ile Ile Glu Asn Thr
 420 425 430
 His Leu Leu Asp Arg Gly Tyr Thr Asn Trp Val Gly Lys Leu Arg Ser
 435 440 445
 Leu Gly Ala Lys Ile Gln Ile Phe Asp Met Glu Gln Glu Glu Leu Thr
 450 455 460
 Thr Ser Pro Lys Ser Leu Ala Leu Arg Asp Ala Ser Leu
 465 470 475

<210> 574
 <211> 756
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0572

<400> 574
 Ile Met Ala Ala Pro Ile Asn Gln Pro Ser Thr Thr Thr Gln Ile Thr
 1 5 10 15
 Gln Thr Gly Gln Thr Thr Thr Thr Thr Thr Val Gly Ser Leu Gly Glu
 20 25 30
 His Ser Val Thr Thr Thr Gly Ser Gly Ala Ala Ala Gln Thr Ser Gln
 35 40 45
 Thr Val Thr Leu Ile Ala Asp His Glu Met Gln Glu Ile Ala Ser Gln
 50 55 60
 Asp Gly Ser Ala Val Ser Phe Ser Ala Glu His Ser Phe Ser Thr Leu
 65 70 75 80
 Pro Pro Glu Thr Gly Ser Val Gly Ala Thr Ala Gln Ser Ala Gln Ser
 85 90 95
 Ala Gly Leu Phe Ser Leu Ser Gly Arg Thr Gln Arg Arg Asp Ser Glu
 100 105 110
 Ile Ser Ser Ser Ser Asp Gly Ser Ser Ile Ser Arg Thr Ser Ser Asn
 115 120 125
 Ala Ser Ser Gly Glu Thr Ser Arg Ala Glu Ser Ser Pro Asp Leu Gly
 130 135 140
 Asp Leu Asp Ser Leu Ser Gly Ser Glu Arg Ala Glu Gly Ala Glu Gly
 145 150 155 160
 Pro Glu Gly Pro Gly Gly Leu Pro Glu Ser Thr Ile Pro His Tyr Asp
 165 170 175
 Pro Thr Asp Lys Ala Ser Ile Leu Asn Phe Leu Lys Asn Pro Ala Val
 180 185 190
 Gln Gln Lys Met Gln Thr Lys Gly Gly His Phe Val Tyr Val Asp Glu
 195 200 205
 Ala Arg Ser Ser Phe Ile Phe Val Arg Asn Gly Asp Trp Ser Thr Ala
 210 215 220
 Glu Ser Ile Lys Val Ser Asn Ala Lys Thr Lys Glu Asn Ile Thr Lys
 225 230 235 240
 Pro Ala Asp Leu Glu Met Cys Ile Ala Lys Phe Cys Val Gly Tyr Glu
 245 250 255
 Thr Ile His Ser Asp Trp Thr Gly Arg Val Lys Pro Thr Met Glu Glu
 260 265 270

Arg Ser Gly Ala Thr Gly Asn Tyr Asn His Leu Met Leu Ser Met Lys
 275 280 285
 Phe Lys Thr Ala Val Val Tyr Gly Pro Trp Asn Ala Lys Glu Ser Ser
 290 295 300
 Ser Gly Tyr Thr Pro Ser Ala Trp Arg Arg Gly Ala Lys Val Glu Thr
 305 310 315 320
 Gly Pro Ile Trp Asp Asp Val Gly Gly Leu Lys Gly Ile Asn Trp Lys
 325 330 335
 Thr Thr Pro Ala Pro Asp Phe Ser Phe Ile Asn Glu Thr Pro Gly Gly
 340 345 350
 Gly Ala His Ser Thr Ser His Thr Gly Pro Gly Thr Pro Val Gly Ala
 355 360 365
 Thr Val Val Pro Asn Val Asn Val Asn Leu Gly Gly Ile Lys Val Asp
 370 375 380
 Leu Gly Gly Ile Asn Leu Gly Gly Ile Thr Thr Asn Val Thr Thr Glu
 385 390 395 400
 Glu Gly Gly Gly Thr Asn Ile Thr Ser Thr Lys Ser Thr Ser Thr Asp
 405 410 415
 Asp Lys Val Ser Ile Thr Ser Thr Gly Ser Gln Ser Thr Ile Glu Glu
 420 425 430
 Asp Thr Ile Gln Phe Asp Asp Pro Gly Gln Gly Glu Asp Asp Asn Ala
 435 440 445
 Ile Pro Gly Thr Asn Thr Pro Pro Pro Gly Pro Pro Pro Asn Leu
 450 455 460
 Ser Ser Ser Arg Leu Leu Thr Ile Ser Asn Ala Ser Leu Asn Gln Val
 465 470 475 480
 Leu Gln Asn Val Arg Gln His Leu Asn Thr Ala Tyr Asp Ser Asn Gly
 485 490 495
 Asn Ser Val Ser Asp Leu Asn Gln Asp Leu Gly Gln Val Val Lys Asn
 500 505 510
 Ser Glu Asn Gly Val Asn Phe Pro Thr Val Ile Leu Pro Lys Thr Thr
 515 520 525
 Gly Asp Thr Asp Pro Ser Gly Gln Ala Thr Gly Gly Val Thr Glu Gly
 530 535 540
 Gly Gly His Ile Arg Asn Ile Ile Gln Arg Asn Thr Gln Ser Thr Gly
 545 550 555 560
 Gln Ser Glu Gly Ala Thr Pro Thr Pro Gln Pro Thr Ile Ala Lys Ile
 565 570 575
 Val Thr Ser Leu Arg Lys Ala Asn Val Ser Ser Ser Val Leu Pro
 580 585 590
 Gln Pro Gln Val Ala Thr Thr Ile Thr Pro Gln Ala Arg Thr Ala Ser
 595 600 605
 Thr Ser Thr Thr Ser Ile Gly Thr Gly Thr Glu Ser Thr Ser Thr Thr
 610 615 620
 Ser Thr Gly Thr Gly Thr Gly Ser Val Ser Thr Gln Ser Thr Gly Val
 625 630 635 640
 Gly Thr Pro Thr Thr Thr Arg Ser Thr Gly Thr Ser Ala Thr Thr
 645 650 655
 Thr Thr Ser Ser Ala Ser Thr Gln Thr Pro Gln Ala Pro Leu Pro Ser
 660 665 670
 Gly Thr Arg His Val Ala Thr Ile Ser Leu Val Arg Asn Ala Ala Gly
 675 680 685
 Arg Ser Ile Val Leu Gln Gln Gly Gly Arg Ser Gln Ser Phe Pro Ile
 690 695 700
 Pro Pro Ser Gly Thr Gly Thr Gln Asn Met Gly Ala Gln Leu Trp Ala
 705 710 715 720
 Ala Ala Ser Gln Val Ala Ser Thr Leu Gly Gln Val Val Asn Gln Ala
 725 730 735
 Ala Thr Ala Gly Ser Gln Pro Ser Ser Arg Arg Ser Ser Pro Thr Ser
 740 745 750

Pro Arg Arg Lys
755

<210> 575
<211> 241
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0573

<400> 575
Val Glu Asp Met Ala Gly His Ser Lys Trp Ala Asn Thr Lys His Arg
1 5 10 15
Lys Glu Arg Ala Asp His Lys Lys Gly Lys Ile Phe Ser Arg Ile Ile
20 25 30
Lys Glu Leu Ile Ser Ala Val Lys Leu Gly Gly Ala Asp Pro Lys Ser
35 40 45
Asn Ala Arg Leu Arg Met Val Ile Gln Lys Ala Lys Glu Asn Asn Ile
50 55 60
Pro Asn Glu Asn Ile Glu Arg Asn Leu Lys Lys Ala Thr Ser Ala Glu
65 70 75 80
Gln Lys Asn Phe Glu Glu Val Thr Tyr Glu Leu Tyr Gly His Gly Gly
85 90 95
Val Gly Ile Ile Val Glu Ala Met Thr Asp Asn Lys Asn Arg Thr Ala
100 105 110
Ser Asp Met Arg Ile Ala Ile Asn Lys Arg Gly Gly Ser Leu Val Glu
115 120 125
Pro Gly Ser Val Leu Tyr Asn Phe Ala Arg Lys Gly Ala Cys Thr Val
130 135 140
Ala Lys Ser Ser Ile Asp Glu Glu Val Ile Phe Ser Tyr Ala Ile Glu
145 150 155 160
Ala Gly Ala Glu Asp Leu Asp Thr Glu Asp Glu Glu Asn Phe Leu Val
165 170 175
Ile Cys Ala Pro Ser Glu Leu Ala Ser Val Lys Glu Lys Leu Ile Ser
180 185 190
Gln Gly Ala Thr Cys Ser Glu Asp Arg Leu Ile Tyr Leu Pro Leu Arg
195 200 205
Leu Val Asp Cys Asp Glu Lys Asp Gly Glu Ala Asn Leu Ala Leu Ile
210 215 220
Asp Trp Leu Glu Gln Ile Glu Asp Val Asp Asp Val Tyr His Asn Met
225 230 235 240
Ser

<210> 576
<211> 195
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0574

<400> 576
Ser Ala Glu Arg Gly Phe Arg His Pro Ile Val Met Val Glu Thr Val
1 5 10 15
Leu His Asn Phe Gln Arg Tyr Leu Ser Lys Tyr Leu Tyr Arg Val Phe
20 25 30
Arg Phe Pro Cys Arg Lys Lys Thr Phe Leu Ser Ser His Arg Val Leu
35 40 45

Ala Arg Pro Ser Phe Pro Val Asp Tyr Cys Pro Gly Lys Ile Tyr Asp
 50 55 60
 Leu Gln Glu Ile Tyr Glu Glu Leu Asn Ala Gln Leu Phe Gln Gly Ala
 65 70 75 80
 Leu Arg Leu Gln Ile Gly Trp Phe Gly Arg Lys Ala Thr Arg Lys Gly
 85 90 95
 Lys Ser Val Val Leu Gly Leu Phe His Glu Asn Glu Gln Leu Ile Arg
 100 105 110
 Ile His Arg Ser Leu Asp Arg Gln Glu Ile Pro Arg Phe Phe Met Glu
 115 120 125
 Tyr Leu Val Tyr His Glu Met Val His Ser Val Val Pro Arg Glu Tyr
 130 135 140
 Ser Leu Ser Gly Arg Ser Ile Phe His Gly Lys Lys Phe Lys Glu Tyr
 145 150 155 160
 Glu Gln Arg Phe Pro Leu Tyr Asp Arg Ala Val Ala Trp Glu Lys Ala
 165 170 175
 Asn Ala Tyr Leu Leu Arg Gly Tyr Lys Lys Arg Val Gly Gly Tyr
 180 185 190
 Gly Arg Ala
 195

<210> 577
 <211> 181
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0575

<400> 577

Ser Ile Phe Gly Arg Val Trp Arg Ser Phe Met Thr Ala Glu Lys Gln
 1 5 10 15
 Asn Thr Gly Ile Leu Gly Leu Glu Ile Arg Tyr Thr Leu Pro Ser Asp
 20 25 30
 Ala Thr Tyr Met Leu Lys Trp Leu Asn Asp Pro Lys Ile Leu Arg Gly
 35 40 45
 Phe Pro Ile Gln Thr Glu Ala Glu Ile Arg Glu Thr Val Asn Phe Trp
 50 55 60
 Val Gly Phe Tyr Arg Tyr His Ser Ser Leu Thr Ala Val Tyr Asn Gly
 65 70 75 80
 Asn Val Ala Gly Val Ala Thr Leu Val Leu Asn Pro Tyr Val Lys Val
 85 90 95
 Ser His His Ala Leu Ile Ser Ile Ile Val Gly Glu Glu Phe Arg Asn
 100 105 110
 Lys Gly Ile Gly Thr Ala Leu Leu Asn Asn Leu Ile His Leu Ala Lys
 115 120 125
 Thr Arg Phe Lys Leu Glu Val Leu Tyr Leu Glu Val Tyr Glu Gly Asn
 130 135 140
 Pro Ala Leu His Leu Tyr Gln Arg Phe Gly Phe Val Glu Val Gly Arg
 145 150 155 160
 Gln Asn Arg Phe Tyr Lys Asp Glu Ile Gly Tyr Leu Ala Lys Thr Thr
 165 170 175
 Met Glu Lys Asp Leu
 180

<210> 578
 <211> 23
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0576 and CPn0576.1

<400> 578

Met Gln Glu Asn Leu Asp Lys Arg Leu Glu Ala Leu Arg Thr Glu Ile
1 5 10 15
Ser Leu Ala Ala Arg Ser Leu
20

<210> 579

<211> 90

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0577

<400> 579

Glu Ser Pro Met Ser Gln Lys Asn Lys Asn Ser Ala Phe Met His Pro
1 5 10 15
Val Asn Ile Ser Thr Asp Leu Ala Val Ile Val Gly Lys Gly Pro Met
20 25 30
Pro Arg Thr Glu Ile Val Lys Lys Val Trp Glu Tyr Ile Lys Lys His
35 40 45
Asn Cys Gln Asp Gln Lys Asn Lys Arg Asn Ile Leu Pro Asp Ala Asn
50 55 60
Leu Ala Lys Val Phe Gly Ser Ser Asp Pro Ile Asp Met Phe Gln Met
65 70 75 80
Thr Lys Ala Leu Ser Lys His Ile Val Lys
85 90

<210> 580

<211> 326

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0578

<400> 580

Thr Thr Asn Ser Phe Ile Val Leu Ile Ser Ile Ser Leu Ala Thr Leu
1 5 10 15
Pro Ile Leu Ala Phe Ser Trp Ala Ser Phe Ile Glu Pro Asn Trp Leu
20 25 30
Arg Thr Thr Ala Ile Pro Trp Arg Leu Pro Lys Lys His Ala His Leu
35 40 45
His Gly Leu Arg Ile Ala Gln Ile Ser Asp Leu His Phe His Lys Arg
50 55 60
Val Pro Glu Lys Phe Leu Asn Lys Val Ser Lys Ser Ile Lys Asn Phe
65 70 75 80
Ser Pro Asp Leu Ile Val Phe Cys Gly Asp Leu Leu Cys Arg Ala Arg
85 90 95
Leu Glu Asp Lys Glu Arg Leu Glu Thr Phe Leu Asn Thr Leu Glu Ala
100 105 110
Pro Leu Gly Val Phe Ala Ile Leu Gly Asn His Asp Tyr Ser Ser Tyr
115 120 125
Ile Ser Arg Asn Thr Lys Gly Glu Ile Thr Cys Ile Pro Glu Glu Lys
130 135 140
Ser Arg Pro Ile Gln Arg Ala Ile Ile Ala Val Met Gln Gly Leu Phe
145 150 155 160

Gln Ala Leu Leu
225

<210> 582
<211> 286
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0580

<400> 582
Ala Ser Ser Asn Gln Asn Phe Leu Pro Arg Arg Ser Asn Asp Cys Pro
1 5 10 15
Ser Pro Pro Met Thr Lys Val Ala Leu Leu Ile Ala Tyr Gln Gly Thr
20 25 30
Ala Tyr Ser Gly Trp Gln Gln Gln Pro Asn Asp Leu Ser Ile Gln Glu
35 40 45
Val Ile Glu Ser Ser Leu Lys Lys Ile Thr Lys Thr Arg Thr Pro Leu
50 55 60
Ile Ala Ser Gly Arg Thr Asp Ala Gly Val His Ala Tyr Gly Gln Val
65 70 75 80
Ala His Phe Arg Ala Pro Asp His Pro Leu Phe Ala Asn Ala Asn Leu
85 90 95
Thr Lys Lys Ala Leu Asn Ala Ile Leu Pro Lys Asp Ile Val Ile Arg
100 105 110
Asp Val Ala Leu Phe Asp Asp Asn Phe His Ala Arg Tyr Leu Ala Ile
115 120 125
Ala Lys Glu Tyr Arg Tyr Ser Leu Ser Arg Leu Ala Lys Pro Leu Pro
130 135 140
Trp Gln Arg His Phe Cys Tyr Thr Pro Arg His Pro Phe Ser Thr Glu
145 150 155 160
Leu Met Gln Glu Gly Ala Asn Leu Leu Ile Gly Thr His Asp Phe Ala
165 170 175
Ser Phe Ala Asn His Gly Arg Asp Tyr Asn Ser Thr Val Arg Thr Ile
180 185 190
Tyr Thr Leu Asp Ile Val Asp Lys Gly Asp Ser Leu Ser Ile Ile Cys
195 200 205
Arg Gly Asn Gly Phe Leu Tyr Lys Met Val Arg Asn Leu Val Gly Ala
210 215 220
Leu Leu Asp Val Gly Lys Gly Ala Tyr Pro Pro Glu His Leu Leu Asp
225 230 235 240
Ile Leu Glu Gln Lys Asn Arg Arg Glu Gly Pro Ser Ala Ala Pro Ala
245 250 255
Tyr Gly Leu Ser Leu His His Val Cys Tyr Ser Ser Pro Tyr Asn Asn
260 265 270
Phe Cys Cys Glu Gln Cys Ser Val Ser Thr Ser Asn Glu Gly
275 280 285

<210> 583
<211> 263
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0581

<400> 583
Glu Gly Leu Arg Trp Arg Ser Val Lys Ser Phe Leu Arg Gln Cys Trp
1 5 10 15

Pro Glu Gly Val Leu Tyr Asp Cys Asp Gly Leu His His Ser Ile Thr
 145 150 155 160
 Lys Glu Glu Phe Arg Tyr Ile His Pro Arg Leu Ile Glu Val Val Arg
 165 170 175
 Leu Leu Gln Gln Asp His Pro Lys Val Ser Ile Ile Glu Ala Phe Cys
 180 185 190
 Cys Pro Lys His Phe His Phe Leu Glu Ala Ser Gly Ile Ser Leu Ser
 195 200 205
 Gln Leu His Leu Gln Gly Thr Ala Ala Thr Phe Ala Leu Asp Pro Pro
 210 215 220
 Leu Pro Met Glu Lys Leu Leu Ala Thr Ile Lys Lys Leu Tyr Lys Lys
 225 230 235 240
 Asn Ser Asp Pro Ser Leu Ser Asn Phe Ile Val Thr Glu Ala Thr Leu
 245 250 255
 Thr Asn Pro Glu Leu Arg Leu Thr Gln Gln Asp Leu Gly Ser His Thr
 260 265 270
 Glu Ile Thr Val Glu Ile Leu Asp Asn Leu Gln Asn Lys Glu Ala Leu
 275 280 285
 Ser Ser Ala
 290

<210> 585

<211> 123

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0583

<400> 585

Ile Val Leu Ser Phe Phe Leu Gly Lys Thr Lys Val Thr Pro Arg Phe
 1 5 10 15
 Leu Met Asn Glu Arg Thr Leu Leu Leu Leu Lys Lys Lys Lys Gly
 20 25 30
 Leu Phe Leu Ala Ile Leu Asp Leu Thr Gln Thr Glu Ser Ser Leu Thr
 35 40 45
 Thr Pro Glu Leu Glu Lys Val Leu Lys Gln Lys Lys Ile Phe Leu Ser
 50 55 60
 Cys Ile Asp Arg Val Asp Leu Gln Ile Lys Glu Phe Arg His Ala Phe
 65 70 75 80
 Ser Ser Glu Leu Pro Gln Asp Ile Gln Glu Glu Leu Glu Glu Ile Arg
 85 90 95
 Asp Val Ile Ile Arg Ile Leu Asp Thr Asp Lys Arg Asn Tyr Ala Gln
 100 105 110
 Lys Lys Lys Glu Phe Gly Ile Tyr Glu Arg Pro
 115 120

<210> 586

<211> 380

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0584

<400> 586

Ile Arg Ile Asn Ala Thr Met His Arg Lys Lys Arg Asn Leu Val Phe
 1 5 10 15
 Met Asn Val Pro Asp Ser Lys Asn Leu His Pro Pro Ala Tyr Glu Leu
 20 25 30

Leu Glu Ile Lys Ala Arg Ile Thr Gln Ser Tyr Lys Glu Ala Ser Ala
 35 40 45
 Ile Leu Thr Ala Ile Pro Asp Gly Ile Leu Leu Leu Ser Glu Thr Gly
 50 55 60
 His Phe Leu Ile Cys Asn Ser Gln Ala Arg Glu Ile Leu Gly Ile Asp
 65 70 75 80
 Glu Asn Leu Glu Ile Leu Asn Arg Ser Phe Thr Asp Val Leu Pro Asp
 85 90 95
 Thr Cys Leu Gly Phe Ser Ile Gln Glu Ala Leu Glu Ser Leu Lys Val
 100 105 110
 Pro Lys Thr Leu Arg Leu Ser Leu Cys Lys Glu Ser Lys Glu Lys Glu
 115 120 125
 Val Glu Leu Phe Ile Arg Lys Asn Glu Ile Ser Gly Tyr Leu Phe Ile
 130 135 140
 Gln Ile Arg Asp Arg Ser Asp Tyr Lys Gln Leu Glu Asn Ala Ile Glu
 145 150 155 160
 Arg Tyr Lys Asn Ile Ala Glu Leu Gly Lys Met Thr Ala Thr Leu Ala
 165 170 175
 His Glu Ile Arg Asn Pro Leu Ser Gly Ile Val Gly Phe Ala Ser Ile
 180 185 190
 Leu Lys Lys Glu Ile Ser Ser Pro Arg His Gln Arg Met Leu Ser Ser
 195 200 205
 Ile Ile Ser Gly Thr Arg Ser Leu Asn Asn Leu Val Ser Ser Met Leu
 210 215 220
 Glu Tyr Thr Lys Ser Gln Pro Leu Asn Leu Lys Ile Ile Asn Leu Gln
 225 230 235 240
 Asp Phe Phe Ser Ser Leu Ile Pro Leu Leu Ser Val Ser Phe Pro Asn
 245 250 255
 Cys Lys Phe Val Arg Glu Gly Ala Gln Pro Leu Phe Arg Ser Ile Asp
 260 265 270
 Pro Asp Arg Met Asn Ser Val Val Trp Asn Leu Val Lys Asn Ala Val
 275 280 285
 Glu Thr Gly Asn Ser Pro Ile Thr Leu Thr Leu His Thr Ser Gly Asp
 290 295 300
 Ile Ser Val Thr Asn Pro Gly Thr Ile Pro Ser Glu Ile Met Asp Lys
 305 310 315 320
 Leu Phe Thr Pro Phe Phe Thr Thr Lys Arg Glu Gly Asn Gly Leu Gly
 325 330 335
 Leu Ala Glu Ala Gln Lys Ile Ile Arg Leu His Gly Gly Asp Ile Gln
 340 345 350
 Leu Lys Thr Ser Asp Ser Ala Val Ser Phe Phe Ile Ile Ile Pro Glu
 355 360 365
 Leu Leu Ala Ala Leu Pro Lys Glu Arg Ala Ala Ser
 370 375 380

<210> 587

<211> 672

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0585

<400> 587

Ile Ser Leu Arg Arg Lys Ile Leu Arg Pro Asn Asn Phe Ser Ile Gly
 1 5 10 15
 Asp Cys Ser Ser Asn Met Ala Thr Pro Ala Gln Lys Ser Pro Thr Phe
 20 25 30
 Gln Asp Pro Ser Phe Val Arg Glu Leu Gly Ser Asn His Pro Val Phe
 35 40 45

875

Ala	Ala	Ala	Pro	Thr	Glu	Ile	Gly	Glu	Asp	Asp	Asp	Trp	Val	Leu	Thr
530						535					540				
Asp	Ser	Ala	Ser	Leu	Ser	Gln	Lys	Lys	Ile	Arg	Glu	Leu	Val	Glu	Glu
545					550					555					560
Asn	Gln	Glu	Leu	Leu	Lys	Ala	Leu	Ala	Phe	Lys	Ser	Asn	Glu	Leu	Thr
				565					570						575
Gln	Leu	Val	Ala	Asp	Ala	Val	Glu	Ala	Glu	Lys	Glu	Ile	Ser	Lys	Leu
			580					585					590		
Arg	Glu	His	Ile	Glu	Glu	Gln	Lys	Glu	Gly	Leu	Arg	Ala	Leu	Asp	Lys
		595					600					605			
Met	His	Ala	Gln	Ala	Ile	Lys	Asp	Cys	Glu	Ala	Ala	Gln	Arg	Lys	Cys
		610				615						620			
Cys	Asp	Leu	Glu	Ser	Leu	Leu	Ser	Pro	Val	Arg	Glu	Asp	Ala	Gly	Met
625					630					635					640
Arg	Phe	Glu	Leu	Glu	Val	Glu	Leu	Gln	Arg	Leu	Gln	Glu	Glu	Asn	Ala
				645					650					655	
Gln	Leu	Arg	Ala	Glu	Val	Glu	Arg	Leu	Glu	Gln	Glu	Gln	Phe	Gln	Gly
			660					665						670	

<210> 588
 <211> 397
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0586

Lys	Glu	Lys	Met	Asn	Pro	Ser	Arg	Gly	Glu	Asn	Met	Ala	Ile	Lys	Asn
1				5					10					15	
Ile	Leu	Val	Val	Asp	Asp	Glu	Pro	Leu	Leu	Arg	Asp	Phe	Leu	Ser	Glu
			20					25					30		
Leu	Leu	Thr	Ser	Gln	Gly	Phe	Ile	Pro	Asp	Thr	Ala	Glu	Asn	Leu	Arg
		35					40					45			
Asn	Ala	Leu	Gln	Met	Ile	Arg	Ser	Arg	Asp	Tyr	Asp	Leu	Val	Ile	Ser
		50				55					60				
Asp	Met	Ser	Met	Pro	Asp	Gly	Ser	Gly	Leu	Asp	Leu	Ile	Lys	Ile	Ile
65					70					75					80
Lys	Gln	Ser	Ser	Pro	His	Thr	Pro	Val	Leu	Val	Val	Thr	Ala	Tyr	Gly
				85					90					95	
Ser	Ile	Glu	Asn	Ala	Val	Glu	Ala	Met	His	Gln	Gly	Ala	Phe	Asn	Tyr
			100					105					110		
Leu	Thr	Lys	Pro	Phe	Ser	Ser	Glu	Ala	Leu	Phe	Ala	Phe	Ile	Ser	Lys
		115					120					125			
Ala	Glu	Glu	Leu	Lys	Asn	Leu	Val	His	Glu	Asn	Leu	Phe	Leu	His	Ser
						135					140				
Gln	Thr	Thr	Pro	Asp	Ser	His	Pro	Leu	Ile	Ala	Glu	Ser	Lys	Ala	Met
145					150					155					160
Lys	Asp	Leu	Leu	Ala	Ile	Ala	Lys	Lys	Ala	Ala	Ser	Ser	Ser	Ala	Asn
				165					170					175	
Ile	Phe	Ile	His	Gly	Glu	Ser	Gly	Cys	Gly	Lys	Glu	Val	Leu	Ser	Phe
			180					185					190		
Phe	Ile	His	His	Asn	Ser	Pro	Arg	Ala	Asn	His	Pro	Tyr	Ile	Lys	Val
		195					200					205			
Asn	Cys	Ala	Ala	Ile	Pro	Glu	Thr	Leu	Leu	Glu	Ser	Glu	Leu	Phe	Gly
		210				215						220			
His	Glu	Lys	Gly	Ala	Phe	Thr	Gly	Ala	Thr	Thr	Lys	Lys	Ala	Gly	Arg
225					230					235					240
Phe	Glu	Leu	Ala	His	Lys	Gly	Thr	Leu	Leu	Leu	Asp	Glu	Ile	Thr	Glu
				245					250						255

Val Pro Val Asn Leu Gln Ala Lys Leu Leu Arg Ala Ile Gln Glu Lys
260 265 270
Glu Ile Glu His Leu Gly Gly Thr Lys Thr Leu Ser Val Asp Val Arg
275 280 285
Ile Leu Ala Thr Ser Asn Arg Lys Leu Lys Glu Ala Ile Asp Asp Lys
290 295 300
Ser Phe Arg Gln Asp Leu Tyr Tyr Arg Leu Asn Val Ile Pro Leu His
305 310 315 320
Leu Pro Pro Leu Arg Asp Arg Gln Asp Asp Ile Leu Pro Leu Ala Asn
325 330 335
Tyr Phe Leu Asn Lys Phe Cys Arg Met Asn Asn Thr Pro Leu Lys Thr
340 345 350
Leu Ser Pro Lys Ala Gln Glu Leu Leu Leu Asn Tyr Pro Trp Pro Gly
355 360 365
Asn Ile Arg Glu Leu Ser Asn Val Leu Glu Arg Val Val Ile Leu Glu
370 375 380
Asn Thr Ser Leu Leu Thr Glu Asp Met Leu Ala Leu Ala
385 390 395

<210> 589
<211> 249
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0587

<400> 589
Ser Tyr Gly Glu Leu Phe Ile Leu Ser Thr Leu Leu Lys His His Val
1 5 10 15
Thr Leu Gly Asp Lys Met Arg Pro His Arg Lys His Val Ser Ser Lys
20 25 30
Ser Leu Ala Leu Lys Gln Ser Ala Ser Thr His Val Glu Ile Thr Thr
35 40 45
Lys Ala Phe Arg Leu Ser Met Pro Leu Lys Gln Leu Ile Leu Glu Lys
50 55 60
Ser Asp His Leu Pro Pro Met Glu Thr Ile Arg Val Val Leu Thr Ser
65 70 75 80
His Lys Asp Lys Leu Gly Thr Glu Val His Val Val Ala Ser His Gly
85 90 95
Lys Glu Ile Leu Gln Thr Lys Val His Asn Ala Asn Pro Tyr Thr Ala
100 105 110
Val Ile Asn Ala Phe Lys Lys Ile Arg Thr Met Ala Asn Lys His Ser
115 120 125
Asn Lys Arg Lys Asp Arg Thr Lys His Asp Leu Gly Leu Ala Ala Lys
130 135 140
Glu Glu Arg Ile Ala Ile Gln Glu Glu Gln Glu Asp Arg Leu Ser Asn
145 150 155 160
Glu Trp Leu Pro Val Glu Gly Leu Asp Ala Trp Asp Ser Leu Lys Thr
165 170 175
Leu Gly Tyr Val Pro Ala Ser Ala Lys Lys Lys Ile Ser Lys Lys Lys
180 185 190
Met Ser Ile Arg Met Leu Ser Gln Asp Glu Ala Ile Arg Gln Leu Glu
195 200 205
Ser Ala Ala Glu Asn Phe Leu Ile Phe Leu Asn Glu Gln Glu His Lys
210 215 220
Ile Gln Cys Ile Tyr Lys Lys His Asp Gly Asn Tyr Val Leu Ile Glu
225 230 235 240
Pro Ser Leu Lys Pro Gly Phe Cys Ile
245

<210> 590
 <211> 198
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0588

<400> 590
 Thr Ser Lys Ser Ile Lys Ser Asn Ala Phe Ile Lys Asn Met Thr Ala
 1 5 10 15
 Thr Met Ser Leu Asn Leu Pro Ser Ser Gln Asp Ser Ala Ser Glu
 20 25 30
 Asp Ser Thr Ser Gln Ser Gln Ile Phe Asp Pro Ile Arg Asn Arg Glu
 35 40 45
 Leu Val Ser Thr Pro Glu Glu Lys Val Arg Gln Arg Leu Leu Ser Phe
 50 55 60
 Leu Met His Lys Leu Asn Tyr Pro Lys Lys Leu Ile Ile Ile Glu Lys
 65 70 75 80
 Glu Leu Lys Thr Leu Phe Pro Leu Leu Met Arg Lys Gly Thr Leu Ile
 85 90 95
 Pro Lys Arg Arg Pro Asp Ile Leu Ile Ile Thr Pro Pro Thr Tyr Thr
 100 105 110
 Asp Ala Gln Gly Asn Thr His Asn Leu Gly Asp Pro Lys Pro Leu Leu
 115 120 125
 Leu Ile Glu Cys Lys Ala Leu Ala Val Asn Gln Asn Ala Leu Lys Gln
 130 135 140
 Leu Leu Ser Tyr Asn Tyr Ser Ile Gly Ala Thr Cys Ile Ala Met Ala
 145 150 155 160
 Gly Lys His Ser Gln Val Ser Ala Leu Phe Asn Pro Lys Thr Gln Thr
 165 170 175
 Leu Asp Phe Tyr Pro Gly Leu Pro Glu Tyr Ser Gln Leu Leu Asn Tyr
 180 185 190
 Phe Ile Ser Leu Asn Leu
 195

<210> 591
 <211> 254
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0589

<400> 591
 Ser Ser Met Gln Ile Cys Val Thr Gly Val Val Leu Arg Ser Arg Pro
 1 5 10 15
 Leu Gly Lys Asn His Thr Leu Thr Thr Leu Phe Thr Pro Glu Gly Leu
 20 25 30
 Phe Thr Phe Phe Ala Lys Gln Gly Gln Thr Leu Gln Cys Asp Tyr Arg
 35 40 45
 Glu Thr Leu Val Pro Ile Ser Leu Gly Lys Tyr Thr Leu His Arg Asn
 50 55 60
 Gly Ser Arg Leu Pro Lys Leu Thr His Gly Asp Ile Leu Asn Ala Phe
 65 70 75 80
 Glu Ala Ile Lys Gln Thr Tyr Ala Leu Leu Glu Ala Ser Gly Lys Met
 85 90 95
 Ile Gln Ala Leu Leu Ala Ser Gln Trp Lys Glu Lys Pro Ser His Lys
 100 105 110
 Leu Phe Ser Leu Phe Leu Asn Phe Leu His Arg Ile Pro Glu Ser Ser
 115 120 125

Asn Pro Glu Phe Phe Ala Ala Ile Phe Val Leu Lys Leu Leu Gln Tyr
 130 135 140
 Glu Gly Ile Leu Asp Leu Thr Pro Ala Cys Ser Leu Cys Lys Ala Ser
 145 150 155 160
 Leu Pro Tyr Ala Cys Tyr Arg Tyr Gln Gly His Lys Leu Cys Lys Lys
 165 170 175
 His Gln His Lys Gln Ala Ile Ser Ile Glu Lys Glu Glu Glu Gln Ile
 180 185 190
 Leu Gln Ala Ile Ile His Ala Lys Gln Phe Ser Glu Leu Leu Ala Ile
 195 200 205
 Ala Glu Phe Pro Ile Ala Ile Ala Glu Lys Ile Phe Tyr Leu Phe Asp
 210 215 220
 Ser Leu Gln Glu Glu Lys Lys Ser Glu Arg Asn Ser Ser Glu Asp Pro
 225 230 235 240
 Tyr His Glu Ile Leu Arg Leu Ser Lys Val Val His Pro Tyr
 245 250

<210> 592
 <211> 207
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0590

<400> 592
 Leu Phe Leu Tyr Gly Asp His Asn Leu Gly Phe Ala Cys Arg Tyr Leu
 1 5 10 15
 Phe Phe Phe Ile Val Leu Phe Ala Ser Gly Ser Phe Gly Asn Gln Leu
 20 25 30
 Leu Ser Val Pro Cys Trp Leu Ser Glu Glu Glu Ser Phe Tyr Thr His
 35 40 45
 Arg Phe Asp Phe Ser Lys Ser Tyr Pro Asp Met Glu Asn Met Glu Ile
 50 55 60
 Gln Ala Gln Arg Lys Lys Arg Val Glu Phe Asn Leu Thr Gly Glu Phe
 65 70 75 80
 Pro Lys Leu Glu Thr Leu Asn Tyr Gln Gly Ser Phe Gly His Leu Arg
 85 90 95
 Ala Lys Cys Arg Gly Val Tyr Pro Val Leu Tyr Ala Leu Asn Phe Ser
 100 105 110
 Cys Ser Ser Cys Lys Met Asp Met Asp Phe Arg Gly Lys Trp Asn Arg
 115 120 125
 Ser Ser Thr Ile Thr Ile Ser Asn Gln Lys Glu Ser Ile Asn Leu Lys
 130 135 140
 Leu Pro Lys Asp Val Gly Val Ile Val Asn Thr Lys Thr Ser Leu Lys
 145 150 155 160
 Gly Asn Val Cys Pro Gly Ser Thr Phe Ile Lys Gln Gly Trp Gly Val
 165 170 175
 Trp Asn Lys Ile Tyr His Asn Asp Leu Val Gly Phe Ser Glu Val Thr
 180 185 190
 Leu Ile Phe Asn Val Ser Ser Glu Gly Gly Thr Ile Thr Phe Ser
 195 200 205

<210> 593
 <211> 219
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0591

<400> 593

Ser	Leu	Ile	Met	Arg	Cys	Thr	Ala	Tyr	Cys	Thr	Ala	Ser	Ala	Tyr	Asn
1				5					10					15	
Leu	His	Val	Leu	Phe	His	Leu	Leu	Lys	Pro	Arg	Tyr	Pro	Thr	Ile	Leu
			20					25					30		
Ser	Arg	Glu	Tyr	Val	Leu	Ala	Asn	Leu	Asp	Ser	Thr	Gln	Ala	Ser	Asn
		35					40					45			
Gln	Leu	Ala	Ile	Phe	Phe	Pro	Phe	Gly	Val	Ala	Val	Phe	Trp	Gly	Trp
	50					55					60				
Glu	Glu	Ser	Glu	Glu	Ile	Lys	Leu	Leu	Gln	Thr	Ile	Val	Thr	Ala	Ser
65					70					75				80	
Pro	Glu	Ile	Leu	Pro	Gln	Pro	Glu	Ile	Asp	Cys	Tyr	Asn	Phe	His	Tyr
				85					90				95		
Gly	Asp	Lys	Leu	Gln	Ile	Arg	Arg	Asp	Arg	Leu	Thr	Leu	Ala	Asp	Thr
			100					105					110		
Thr	Leu	Asn	Thr	Lys	Leu	Ala	Ile	Ala	Phe	Gly	Leu	Ala	Gln	Ser	Val
	115						120						125		
Lys	Leu	Thr	Thr	Phe	Glu	Thr	Thr	Ile	Tyr	Lys	Thr	Ile	Glu	Asp	Ser
	130					135					140				
Lys	Arg	Leu	Pro	Gln	Asp	Leu	Ala	Thr	Lys	Gly	Lys	Ile	Ser	Met	Ser
145					150					155				160	
Arg	Lys	Ala	Ile	Ala	Lys	Lys	Ile	Gly	Lys	Leu	Phe	Leu	Asp	Lys	Ala
				165					170					175	
Ser	Val	Asn	Leu	His	Ser	Asp	Ile	Leu	Asp	Glu	Pro	Asp	Phe	Phe	Trp
		180					185						190		
Asp	His	Pro	Glu	Thr	Gln	Ala	Ile	Tyr	Arg	Asp	Val	Leu	Ser	Cys	Leu
		195					200					205			
Asp	Ile	Glu	Ala	Arg	Ile	Asn	Val	Leu	Ile	Val					
	210					215									

<210> 594
 <211> 110
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0592

<400> 594

Leu	Tyr	Ser	Lys	Met	Phe	Ser	Met	Ser	Phe	Lys	Arg	Phe	Leu	Gln	Gln
1				5					10					15	
Ile	Pro	Val	Arg	Ile	Cys	Leu	Leu	Ile	Ile	Tyr	Leu	Tyr	Gln	Trp	Leu
			20					25					30		
Ile	Ser	Pro	Leu	Leu	Gly	Ser	Cys	Cys	Arg	Phe	Phe	Pro	Ser	Cys	Ser
		35					40					45			
His	Tyr	Ala	Glu	Gln	Ala	Leu	Lys	Ser	His	Gly	Phe	Leu	Met	Gly	Cys
	50					55					60				
Trp	Leu	Ser	Ile	Lys	Arg	Ile	Gly	Lys	Cys	Gly	Pro	Trp	His	Pro	Gly
65					70					75				80	
Gly	Ile	Asp	Met	Val	Pro	Lys	Thr	Ala	Leu	Gln	Glu	Val	Leu	Glu	Pro
			85						90				95		
Tyr	Gln	Glu	Ile	Asp	Gly	Gly	Asp	Ser	Ser	His	Phe	Ser	Glu		
			100					105					110		

<210> 595
 <211> 368
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0593

<400> 595

Val Leu Gly Ala Lys Cys Met Ala Phe Lys Arg Lys Thr Arg Trp Leu
1 5 10 15
Trp Gln Val Leu Ile Leu Ser Val Gly Leu Asn Met Leu Phe Leu Leu
20 25 30
Leu Phe Tyr Ser Ala Ile Phe Arg Lys Asp Ile Tyr Lys Leu His Leu
35 40 45
Phe Ser Gly Pro Leu Ile Ala Lys Ser Ser Arg Lys Val Tyr Leu Ser
50 55 60
Glu Asp Phe Leu Asn Glu Ile Ser Gln Ala Ser Leu Asp Asp Leu Ile
65 70 75 80
Ser Leu Phe Lys Asp Glu Arg Tyr Met Tyr Gly Arg Pro Ile Lys Leu
85 90 95
Trp Ala Leu Ser Val Ala Ile Ala Ser His His Ile Asp Ile Thr Pro
100 105 110
Val Leu Ser Lys Pro Leu Thr Tyr Thr Glu Leu Lys Gly Ser Ser Val
115 120 125
Arg Trp Leu Leu Pro Asn Ile Asp Leu Lys Asp Phe Pro Val Ile Leu
130 135 140
Asp Tyr Leu Arg Cys His Lys Tyr Pro Tyr Thr Ser Lys Gly Leu Phe
145 150 155 160
Leu Leu Ile Glu Lys Met Val Gln Glu Gly Trp Val Asp Glu Asp Cys
165 170 175
Leu Tyr His Phe Cys Ser Thr Pro Glu Phe Leu Tyr Leu Arg Thr Leu
180 185 190
Leu Val Gly Ala Asp Val Gln Ala Ser Ser Val Ala Ser Leu Ala Arg
195 200 205
Met Val Ile Arg Cys Gly Ser Glu Arg Phe Phe His Phe Cys Asn Glu
210 215 220
Glu Ser Arg Thr Ser Met Ile Ser Ala Thr Gln Arg Gln Lys Val Leu
225 230 235 240
Lys Ser Tyr Leu Asp Cys Glu Glu Ser Leu Ala Ala Leu Leu Leu Leu
245 250 255
Val His Asp Ser Asp Val Val Leu His Glu Phe Cys Asp Glu Asp Leu
260 265 270
Glu Lys Val Ile Arg Leu Met Pro Gln Glu Ser Pro Tyr Ser Gln Asn
275 280 285
Phe Phe Ser Arg Leu Gln His Ser Pro Arg Arg Glu Leu Ala Cys Met
290 295 300
Ser Thr Gln Arg Val Glu Ala Pro Arg Val Gln Glu Asp Gln Asp Glu
305 310 315 320
Glu Tyr Val Val Gln Asp Gly Asp Ser Leu Trp Leu Ile Ala Lys Arg
325 330 335
Phe Gly Ile Pro Met Asp Lys Ile Ile Gln Lys Asn Gly Leu Asn His
340 345 350
His Arg Leu Phe Pro Gly Lys Val Leu Lys Leu Pro Ala Lys Gln Ser
355 360 365

<210> 596

<211> 814

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0594

<400> 596

Asn Thr Cys His Tyr Thr Gln Val Ile Val Lys Ser Leu Val Lys Tyr
1 5 10 15
Ser Leu Arg Leu Ser Ser Met Arg Ile Pro Ile Thr Leu Leu Gln Thr
20 25 30

Tyr Phe Ser Glu Pro Leu Ser Thr Lys Glu Ile Leu Glu Ala Cys Asp
35 40 45
His Ile Gly Ile Glu Ala Glu Ile Glu Asn Thr Thr Leu Tyr Ser Phe
50 55 60
Ala Ser Val Ile Thr Ala Lys Ile Leu His Thr Ile Pro His Pro Asn
65 70 75 80
Ala Asp Lys Leu Arg Val Ala Thr Leu Thr Asp Gly Glu Lys Glu His
85 90 95
Gln Val Val Cys Gly Ala Pro Asn Cys Glu Ala Gly Leu Ile Val Ala
100 105 110
Leu Ala Leu Pro Gly Ala Lys Leu Phe Asp Ser Glu Gly Gln Ala Tyr
115 120 125
Thr Ile Lys Lys Ser Lys Leu Arg Gly Val Glu Ser Gln Gly Met Cys
130 135 140
Cys Gly Ala Asp Glu Leu Gly Leu Asp Glu Leu Gln Ile Gln Glu Arg
145 150 155 160
Ala Leu Leu Glu Leu Pro Glu Ala Thr Pro Leu Gly Glu Asp Leu Ala
165 170 175
Thr Val Leu Gly Asn Thr Ser Leu Glu Ile Ser Leu Thr Pro Asn Leu
180 185 190
Gly His Cys Ala Ser Phe Leu Gly Leu Ala Arg Glu Ile Cys His Val
195 200 205
Thr Gln Ala Asn Leu Val Ile Pro Lys Glu Phe Ser Phe Glu Asn Leu
210 215 220
Pro Thr Thr Ala Leu Asp Met Gly Asn Asp Pro Asp Ile Cys Pro Phe
225 230 235 240
Phe Ser Tyr Val Val Ile Thr Gly Ile Ser Ala Gln Pro Ser Pro Ile
245 250 255
Lys Leu Gln Glu Ser Leu Gln Ala Leu Lys Gln Lys Pro Ile Asn Ala
260 265 270
Ile Val Asp Ile Thr Asn Tyr Ile Met Leu Ser Leu Gly Gln Pro Leu
275 280 285
His Ala Tyr Asp Ala Ser His Val Ala Leu Asp Ser Leu Arg Val Glu
290 295 300
Lys Leu Ser Thr Pro Glu Ser Leu Thr Leu Leu Asn Gly Glu Thr Val
305 310 315 320
Leu Leu Pro Ser Gly Val Pro Val Val Arg Asp Asp His Ser Leu Leu
325 330 335
Gly Leu Gly Gly Val Met Gly Ala Lys Ala Pro Ser Phe Gln Glu Thr
340 345 350
Thr Thr Thr Thr Val Ile Lys Ala Ala Tyr Phe Leu Pro Glu Ala Leu
355 360 365
Arg Ala Ser Gln Lys Leu Leu Pro Ile Pro Ser Glu Ser Ala Tyr Arg
370 375 380
Phe Thr Arg Gly Ile Asp Pro Gln Asn Val Val Pro Ala Leu Gln Ala
385 390 395 400
Ala Ile His Tyr Ile Leu Glu Ile Phe Pro Glu Ala Thr Ile Ser Pro
405 410 415
Ile Tyr Ser Ser Gly Glu Ile Cys Arg Glu Leu Lys Glu Val Ala Leu
420 425 430
Arg Pro Lys Thr Leu Gln Arg Ile Leu Gly Lys Ser Phe Ser Ile Glu
435 440 445
Ile Leu Ser Gln Lys Leu Gln Ser Leu Gly Phe Ser Thr Thr Pro Gln
450 455 460
Glu Thr Ser Leu Leu Val Lys Val Pro Ser Tyr Arg His Asp Ile Asn
465 470 475 480
Glu Glu Ile Asp Leu Val Glu Glu Ile Cys Arg Thr Glu Ser Trp Asn
485 490 495
Ile Glu Thr Gln Asn Pro Val Ser Cys Tyr Thr Pro Ile Tyr Lys Leu
500 505 510

Lys Arg Glu Thr Ala Gly Phe Leu Ala Asn Ala Gly Leu Gln Glu Phe
 515 520 525
 Phe Thr Pro Asp Leu Leu Asp Pro Glu Thr Val Ala Leu Thr Arg Lys
 530 535 540
 Glu Lys Glu Glu Ile Ser Leu Gln Gly Ser Lys His Thr Thr Val Leu
 545 550 555 560
 Arg Ser Ser Leu Leu Pro Gly Leu Leu Lys Ser Ala Ala Thr Asn Leu
 565 570 575
 Asn Arg Gln Ala Pro Ser Val Gln Ala Phe Glu Ile Gly Thr Val Tyr
 580 585 590
 Ala Lys His Gly Glu Gln Tyr Gln Glu Thr Gln Thr Leu Ala Ile Leu
 595 600 605
 Leu Thr Glu Asp Gly Glu Ser Arg Ser Trp Leu Pro Lys Pro Ser Leu
 610 615 620
 Ser Phe Tyr Ser Leu Lys Gly Trp Val Glu Arg Leu Leu Tyr His His
 625 630 635 640
 His Leu Ser Ile Asp Ala Leu Thr Leu Glu Ser Ser Ala Leu Cys Glu
 645 650 655
 Phe His Pro Tyr Gln Gln Gly Val Leu Arg Ile His Lys Gln Ser Phe
 660 665 670
 Ala Thr Leu Gly Gln Val His Pro Glu Leu Ala Lys Lys Ala Gln Ile
 675 680 685
 Lys His Pro Val Phe Phe Ala Glu Leu Asn Leu Asp Leu Leu Cys Lys
 690 695 700
 Met Leu Lys Lys Thr Thr Lys Leu Tyr Lys Pro Tyr Ala Ile Tyr Pro
 705 710 715 720
 Ser Ser Phe Arg Asp Leu Thr Leu Thr Val Pro Glu Asp Ile Pro Ala
 725 730 735
 Asn Leu Leu Arg Gln Lys Leu Leu His Glu Gly Ser Lys Trp Leu Glu
 740 745 750
 Ser Val Thr Ile Ile Ser Ile Tyr Gln Asp Lys Ser Leu Glu Thr Arg
 755 760 765
 Asn Lys Asn Val Ser Leu Arg Leu Val Phe Gln Asp Tyr Glu Arg Thr
 770 775 780
 Leu Ser Asn Gln Asp Ile Glu Glu Tyr Cys Arg Leu Val Ala Leu
 785 790 795 800
 Leu Asn Glu Leu Leu Thr Asp Thr Lys Gly Thr Ile Asn Ser
 805 810

<210> 597
 <211> 328
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0595

<400> 597
 Arg Asp Tyr Gln Phe Met Lys Gln Leu Leu Phe Cys Val Cys Val Phe
 1 5 10 15
 Ala Met Ser Cys Ser Ala Tyr Ala Ser Pro Arg Arg Gln Asp Pro Ser
 20 25 30
 Val Met Lys Glu Thr Phe Arg Asn Asn Tyr Gly Ile Ile Val Ser Gly
 35 40 45
 Gln Glu Trp Val Lys Arg Gly Ser Asp Gly Thr Ile Thr Lys Val Leu
 50 55 60
 Lys Asn Gly Ala Thr Leu His Glu Val Tyr Ser Gly Gly Leu Leu His
 65 70 75 80
 Gly Glu Ile Thr Leu Thr Phe Pro His Thr Thr Ala Leu Asp Val Val
 85 90 95

Gln Ile Tyr Asp Gln Gly Arg Leu Val Ser Arg Lys Thr Phe Phe Val
 100 105 110
 Asn Gly Leu Pro Ser Gln Glu Glu Leu Phe Asn Glu Asp Gly Thr Phe
 115 120 125
 Val Leu Thr Arg Trp Pro Asp Asn Asp Ser Asp Thr Ile Thr Lys
 130 135 140
 Pro Tyr Phe Ile Glu Thr Thr Tyr Gln Gly His Val Ile Glu Gly Ser
 145 150 155 160
 Tyr Thr Ser Phe Asn Gly Lys Tyr Ser Ser Ser Ile His Asn Gly Glu
 165 170 175
 Gly Val Arg Ser Val Phe Ser Ser Asn Asn Ile Leu Leu Ser Glu Glu
 180 185 190
 Thr Phe Asn Glu Gly Val Met Val Lys Tyr Thr Thr Phe Tyr Pro Asn
 195 200 205
 Arg Asp Pro Glu Ser Ile Thr His Tyr Gln Asn Gly Gln Pro His Gly
 210 215 220
 Leu Arg Leu Thr Tyr Leu Gln Gly Gly Ile Pro Asn Thr Ile Glu Glu
 225 230 235 240
 Trp Arg Tyr Gly Phe Gln Asp Gly Thr Thr Ile Val Phe Lys Asn Gly
 245 250 255
 Cys Lys Thr Ser Glu Ile Ala Tyr Val Lys Gly Val Lys Glu Gly Leu
 260 265 270
 Glu Leu Arg Tyr Asn Glu Gln Glu Ile Val Ala Glu Glu Val Ser Trp
 275 280 285
 Arg Asn Asp Phe Leu His Gly Glu Arg Lys Ile Tyr Ala Gly Gly Ile
 290 295 300
 Gln Lys His Glu Trp Tyr Arg Gly Arg Ser Val Ser Lys Ala Lys
 305 310 315 320
 Phe Glu Arg Leu Asn Ala Ala Gly
 325

<210> 598
 <211> 176
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0596

<400> 598
 Phe Ala Val Met Ala Asp Asp Thr Leu Ile Pro Lys Leu Met Lys Asn
 1 5 10 15
 Ser Leu Ser Gln Ala Cys Ser Glu Gly Leu Leu Ile Ala Lys Tyr Pro
 20 25 30
 Pro Leu Gln Val Ile Val His Phe Asp Asn Asn Leu Val Val Lys Thr
 35 40 45
 His Leu Ser Val Ala Pro Val Phe Ser Cys Leu Phe Leu Gly Pro Ala
 50 55 60
 Ala His Lys Ala Met Gln Glu Ile Val Leu Trp Cys Ser Arg Tyr Ala
 65 70 75 80
 Asn Lys Glu His Pro Pro Phe Ser Ser His Phe Ala Lys Asp Leu Ile
 85 90 95
 Pro Ser Gln Tyr Leu Glu Ile Leu Asn Cys Val Ala Glu Ile Pro Phe
 100 105 110
 Gly Glu Gln Gln Thr Tyr Ala Glu Ile Ala Lys Lys Thr Asp Thr His
 115 120 125
 Pro Arg Thr Val Gly Ala Ala Cys Lys Gln Asn Pro Phe Leu Leu Phe
 130 135 140
 Phe Pro Cys His Arg Val Val Gly Ser His Gly Glu Arg Asn Tyr Val
 145 150 155 160

Leu Gly Pro Val Ile His Glu Ile Leu Leu Lys Phe Glu Asn Ser Tyr
165 170 175

<210> 599
<211> 579
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0597

<400> 599
Met Gln Lys His Pro Ser Phe Tyr Gln Arg Phe Leu Ser Ala Tyr Tyr
1 5 10 15
Lys Asn Leu Leu Ala Ser Leu Ser Trp Lys Phe Phe Ile Ser Val Ala
20 25 30
Leu Ile Gly Ile Tyr Ala Pro Leu Phe Ala Ser Ser Lys Pro Leu Leu
35 40 45
Val Thr Trp His Gly Glu Ile Phe Phe Pro Leu Leu Arg Tyr Leu Phe
50 55 60
Phe Pro Gly Tyr Tyr Thr Lys Pro Val Asp Leu Phe Phe Asn Val Leu
65 70 75 80
Met Val Thr Phe Pro Phe Phe Ile Leu Ser Phe Lys Leu Thr Arg Gly
85 90 95
Trp Leu Arg Arg Trp Leu Leu Gly Leu Cys Ile Ile Ser Gln Cys Met
100 105 110
Ile Phe Ala Trp Ala Tyr Ser Gly Lys Val Gln Asp Pro Ala Leu Ala
115 120 125
Glu Asn Leu Lys Lys Met Arg Ala Glu Lys Val Arg Glu Asn Ile Ser
130 135 140
Lys Val Asn Ser Glu Met Val Met Leu Leu Pro Lys Asp Thr Arg Thr
145 150 155 160
Trp Glu Met Glu Arg Arg Tyr Met Ser Thr Tyr Glu Gln Leu Gly Ile
165 170 175
Leu Ile Lys Ala Lys Tyr Arg Lys Lys Gln Glu Ala Ser Val Lys Lys
180 185 190
Tyr Gln Val Ala Phe Glu Glu Lys Arg Gln Ser Pro Met Pro Thr Leu
195 200 205
Arg His Leu Glu Met Lys Asn Glu Gly Ile Cys Leu Lys Arg Leu Gln
210 215 220
Gln Arg Val Asp Lys Met Gln Arg Pro Tyr Glu Met Ala Gln Gln Ala
225 230 235 240
Trp Asn Arg Ala Thr Asp Asn Tyr Arg Pro Phe Leu Met Ala Leu Thr
245 250 255
Arg Ile Glu His Glu Leu Arg Leu Ala Asp Tyr Asn Asn Trp Gly Gln
260 265 270
Pro Glu Asp Leu Cys Ile Ala Tyr Ala Asn Val Glu Lys Arg Ala Glu
275 280 285
Pro Tyr Lys Lys Ser Leu Leu Glu Ile Arg Gln Val Leu Glu Asp Tyr
290 295 300
Ala Lys Leu Arg Ser Ala Ile Ser Phe Ile Gln Asp Lys Arg Leu Trp
305 310 315 320
Ile Glu Lys Glu Ser Glu Asp Leu Arg Ile Leu Ile Asn Pro Phe Phe
325 330 335
Ser Ser Phe His Trp Glu Asp Asp Ala Gly Gly Ser Arg Glu Met Asn
340 345 350
Lys Tyr Val Pro Trp Trp Gln Leu Ser Arg Val Thr Arg Lys Asp Leu
355 360 365
Leu Ala Ala Leu Val Phe Gly Ile Arg Ile Ala Leu Val Val Ala Gly
370 375 380

Ile Gly Ile Thr Ile Ala Leu Ala Ile Gly Ile Met Ile Gly Leu Val
 385 390 395 400
 Ser Gly Tyr Phe Gly Thr Val Asp Met Ile Leu Ser Arg Phe Thr
 405 410 415
 Glu Ile Trp Glu Thr Met Pro Val Leu Phe Ile Leu Met Leu Val Ile
 420 425 430
 Ser Ile Thr Gln Gln Lys Ser Leu Leu Leu Asn Thr Val Leu Leu Gly
 435 440 445
 Cys Phe Ser Trp Thr Gly Phe Ser Arg Tyr Val Arg Ile Glu Val Leu
 450 455 460
 Lys Gln Arg Asp Arg Gly Tyr Val Leu Ala Ala Thr Asn Leu Gly Tyr
 465 470 475 480
 Ser His Tyr Tyr Ile Met Val His Gln Ile Leu Pro Asn Ala Ile Val
 485 490 495
 Pro Val Ile Ser Leu Val Pro Phe Ala Met Met Ala Met Ile Ser Cys
 500 505 510
 Glu Ala Gly Leu Thr Phe Leu Gly Leu Gly Glu Glu Ser Ser Ala Ser
 515 520 525
 Trp Gly Asn Leu Met Arg Glu Gly Val Thr Gly Phe Pro Ala Glu Ser
 530 535 540
 Ala Val Leu Trp Pro Pro Ala Ile Ile Leu Thr Met Leu Leu Ile Ala
 545 550 555 560
 Ile Ala Leu Ile Gly Asp Gly Val Arg Asp Ala Leu Asp Pro Arg Leu
 565 570 575
 Gln Asp Ser

<210> 600
 <211> 498
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0598

<400> 600
 Glu Glu Gly Gly Ser Val Leu Lys Tyr Ile Leu Lys Arg Leu Val Leu
 1 5 10 15
 Ile Pro Leu Thr Leu Phe Ala Ile Val Ser Ile Asn Phe Val Ile Leu
 20 25 30
 Asn Ala Ala Pro Gly Asp Val Leu Glu Glu Lys Ser Arg Asp Ala Leu
 35 40 45
 Gly Glu Ala Gly Lys Ser Asp Lys Met Arg Ser Tyr Lys Gly Pro Asp
 50 55 60
 Arg Tyr Leu Gln Phe Arg Glu His Tyr Gly Leu Thr Leu Pro Ile Phe
 65 70 75 80
 Phe Asn Thr Arg Pro Lys Ile Thr His Lys Lys Ile Gln Thr Ala Leu
 85 90 95
 Gln Glu Leu Ala Asn Ala Asn Asn Thr Thr Pro Ser Ala Lys Asn Ala
 100 105 110
 Ala Lys Ser Leu Val Tyr Trp Gly Asp Cys Ala Lys Phe Val Met Pro
 115 120 125
 Ala Leu Leu Phe Glu Ala Asp Asp Ala Ser Arg Asp Asp Lys Tyr Arg
 130 135 140
 His Ile Ala Ala Asp Leu Phe Ile Arg Gly Gly Val Leu Gln Gly Phe
 145 150 155 160
 Val Gly Pro Asn Leu Ser Pro Glu Gln Arg Ala Gln Asn Lys Glu Ile
 165 170 175
 Ala Glu Ser Asn Ala Phe Leu Val Arg Gln Leu Asn Glu Glu Asp Leu
 180 185 190

Asp Thr Lys Val Glu Ala Leu Lys Gly Trp Phe Gln Asp His Gly Gly
 195 200 205
 Thr Glu Val Phe Cys Tyr Ser Lys Gln Phe Trp Lys Thr Phe Phe
 210 215 220
 Leu Glu Thr Arg Phe Ala Arg Tyr Met Ser Arg Val Leu Arg Leu Asp
 225 230 235 240
 Phe Gly Thr Leu Arg Asn Asp Ala His Lys Thr Val Ile Ser Glu Val
 245 250 255
 Ile Lys Arg Leu Arg Cys Ser Leu Val Leu Ser Ile Leu Pro Met Ile
 260 265 270
 Val Gly Phe Val Leu Cys Gln Ile Phe Gly Met Ile Met Ala Leu Lys
 275 280 285
 Arg Asn Arg Trp Ile Asp His Ser Leu Asn Phe Ile Phe Leu Ile Leu
 290 295 300
 Phe Ser Ile Pro Val Phe Val Ala Val Pro Trp Ile Leu Asp Asn Phe
 305 310 315 320
 Val Ile Asn Lys Thr Ile Pro Phe Thr Thr Ile Pro Met Pro Tyr Ser
 325 330 335
 Gly Leu Arg Ser Pro Pro Glu Val Phe Asn Glu Leu Ser Thr Leu Gly
 340 345 350
 Arg Ile Phe Asp Leu Val Ser His Gly Phe Leu Pro Phe Cys Ala Val
 355 360 365
 Ser Tyr Gly Ala Leu Ala Ala Gln Ser Arg Leu Ser Arg Ser Ile Phe
 370 375 380
 Leu Glu Val Leu Ser Gln Asp Phe Ile Cys Ala Ala Lys Ala Arg Gly
 385 390 395 400
 Leu Arg Trp Phe Asp Ile Leu Tyr Lys His Val Gly Lys Asn Ala Ala
 405 410 415
 Val Ser Ile Val Thr Ser Leu Ala Ser Ser Leu Gly Thr Leu Leu Gly
 420 425 430
 Gly Ala Leu Val Val Glu Thr Leu Phe Asn Ile Asp Gly Phe Gly Asn
 435 440 445
 Phe Phe Tyr Gln Ala Ile Leu Asn Arg Asp His Asn Val Val Leu Phe
 450 455 460
 Ser Val Leu Val Gly Ser Ala Leu Ser Leu Val Gly Tyr Leu Leu Gly
 465 470 475 480
 Asp Ile Cys Tyr Val Leu Leu Asp Pro Arg Val Gln Leu Glu Gly Arg
 485 490 495
 Arg Ile

<210> 601
 <211> 714
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0599

<400> 601

Lys Arg Arg Glu Ser Gly His Met Tyr Lys Arg Cys Val Leu Asp Lys
 1 5 10 15
 Ile Leu Lys Gly Ile Val Ala Gly Ser Leu Ile Leu Leu Tyr Trp Ser
 20 25 30
 Ser Asp Leu Leu Glu Arg Asp Ile Lys Ser Ile Lys Gly Asn Val Arg
 35 40 45
 Asp Ile Gln Glu Asp Ile Arg Glu Ile Ser Arg Val Val Lys Gln Gln
 50 55 60
 Gln Thr Ser Gln Ala Ile Pro Ala Ala Pro Gly Val Met Leu Ala Pro
 65 70 75 80

Lys	Leu	Val	Arg	Asp	Glu	Ala	Phe	Ala	Leu	Leu	Phe	Gly	Asp	Pro	Ser	
				85					90					95		
Tyr	Pro	Asn	Leu	Leu	Ser	Leu	Asp	Pro	Tyr	Lys	Gln	Gln	Thr	Leu	Pro	
			100					105					110			
Glu	Leu	Leu	Gly	Thr	Asn	Phe	His	Pro	His	Gly	Ile	Leu	Arg	Thr	Ala	
		115					120					125				
His	Val	Gly	Lys	Pro	Glu	Asn	Leu	Ser	Pro	Phe	Asn	Gly	Phe	Asp	Tyr	
	130					135					140					
Val	Val	Gly	Phe	Tyr	Asp	Leu	Cys	Ile	Pro	Ser	Leu	Ala	Ser	Pro	His	
145					150					155					160	
Val	Gly	Lys	Tyr	Glu	Glu	Phe	Ser	Pro	Asp	Leu	Ala	Val	Lys	Ile	Glu	
			165						170					175		
Glu	His	Leu	Val	Glu	Asp	Gly	Ser	Gly	Asp	Lys	Glu	Phe	His	Ile	Tyr	
			180					185						190		
Leu	Arg	Pro	Asn	Val	Phe	Trp	Arg	Pro	Ile	Asp	Pro	Lys	Ala	Leu	Pro	
	195						200					205				
Lys	His	Val	Gln	Leu	Asp	Glu	Val	Phe	Gln	Arg	Pro	His	Pro	Val	Thr	
	210					215					220					
Ala	His	Asp	Ile	Lys	Phe	Tyr	Asp	Ala	Val	Met	Asn	Pro	Tyr	Val		
225					230				235					240		
Ala	Thr	Met	Arg	Ala	Val	Ala	Leu	Arg	Ser	Cys	Tyr	Glu	Asp	Val	Val	
			245						250					255		
Ser	Val	Ser	Val	Glu	Asn	Asp	Leu	Lys	Leu	Val	Val	Arg	Trp	Lys	Ala	
		260						265					270			
His	Thr	Val	Ile	Asn	Glu	Glu	Gly	Lys	Glu	Glu	Arg	Lys	Val	Leu	Tyr	
	275						280					285				
Ser	Ala	Phe	Ser	Asn	Thr	Leu	Ser	Leu	Gln	Pro	Leu	Pro	Arg	Phe	Val	
	290					295					300					
Tyr	Gln	Tyr	Phe	Ala	Asn	Gly	Glu	Lys	Ile	Ile	Glu	Asp	Glu	Asn	Ile	
305					310				315					320		
Asp	Thr	Tyr	Arg	Thr	Asn	Ser	Ile	Trp	Ala	Gln	Asn	Phe	Thr	Met	His	
			325						330					335		
Trp	Ala	Asn	Asn	Tyr	Ile	Val	Ser	Cys	Gly	Ala	Tyr	Tyr	Phe	Ala	Gly	
		340						345					350			
Met	Asp	Asp	Glu	Lys	Ile	Val	Phe	Ser	Arg	Asn	Pro	Asp	Phe	Tyr	Asp	
	355						360					365				
Pro	Leu	Ala	Ala	Leu	Ile	Asp	Lys	Arg	Phe	Val	Tyr	Phe	Lys	Glu	Ser	
	370					375					380					
Thr	Asp	Ser	Leu	Phe	Gln	Asp	Phe	Lys	Thr	Gly	Lys	Ile	Asp	Ile	Ser	
385					390					395				400		
Tyr	Leu	Pro	Pro	Asn	Gln	Arg	Asp	Asn	Phe	Tyr	Ser	Phe	Met	Lys	Ser	
			405						410					415		
Ser	Ala	Tyr	Asn	Lys	Gln	Val	Ala	Lys	Gly	Gly	Ala	Val	Arg	Glu	Thr	
		420						425					430			
Val	Ser	Ala	Asp	Arg	Ala	Tyr	Thr	Tyr	Ile	Gly	Trp	Asn	Cys	Phe	Ser	
	435						440					445				
Leu	Phe	Phe	Gln	Ser	Arg	Gln	Val	Arg	Cys	Ala	Met	Asn	Met	Ala	Ile	
	450					455					460					
Asp	Arg	Glu	Arg	Ile	Ile	Glu	Gln	Cys	Leu	Asp	Gly	Gln	Gly	Tyr	Thr	
465					470				475					480		
Ile	Ser	Gly	Pro	Phe	Ala	Ser	Ser	Ser	Pro	Ser	Tyr	Asn	Lys	Gln	Ile	
			485						490					495		
Glu	Gly	Trp	His	Tyr	Ser	Pro	Glu	Glu	Ala	Ala	Arg	Leu	Leu	Glu	Glu	
		500						505					510			
Glu	Gly	Trp	Ile	Asp	Thr	Asp	Gly	Asp	Gly	Ile	Arg	Glu	Lys	Val	Ile	
	515						520					525				
Asp	Gly	Val	Ile	Val	Pro	Phe	Arg	Phe	Arg	Leu	Cys	Tyr	Tyr	Val	Lys	
	530					535					540					
Ser	Val	Thr	Ala	His	Thr	Ile	Ala	Asp	Tyr	Val	Ala	Thr	Ala	Cys	Lys	
545					550					555					560	

Glu Ile Gly Ile Glu Cys Ser Leu Leu Gly Leu Asp Met Ala Asp Leu
 565 570 575
 Ser Gln Ala Phe Asp Glu Lys Asn Phe Asp Ala Leu Leu Met Gly Trp
 580 585 590
 Cys Leu Gly Ile Pro Pro Glu Asp Pro Arg Ala Leu Trp His Ser Glu
 595 600 605
 Gly Ala Met Glu Lys Gly Ser Ala Asn Val Val Gly Phe His Asn Glu
 610 615 620
 Glu Ala Asp Lys Ile Ile Asp Arg Leu Ser Tyr Glu Tyr Asp Leu Lys
 625 630 635 640
 Glu Arg Asn Arg Leu Tyr His Arg Phe His Glu Ile Ile His Glu Glu
 645 650 655
 Ala Pro Tyr Ala Phe Leu Phe Ser Arg His Cys Ser Leu Leu Tyr Lys
 660 665 670
 Asp Tyr Val Lys Asn Ile Phe Val Pro Thr His Arg Thr Asp Leu Ile
 675 680 685
 Pro Glu Ala Gln Asp Glu Thr Val Asn Val Thr Met Val Trp Leu Glu
 690 695 700
 Lys Lys Glu Asp Pro Cys Leu Ser Thr Ser
 705 710

<210> 602
 <211> 110
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0600

<400> 602
 His Gly Tyr Met Lys Ile Lys Lys Ser Phe Gln Tyr Ser Leu Cys Gln
 1 5 10 15
 Ala Lys Arg Phe Gln Asn Met Leu Pro Asn His Phe Asp Pro Cys Leu
 20 25 30
 Gln Pro Val Asn Leu Gln Leu Lys Gln Asp Arg Leu Ala Tyr Gly Glu
 35 40 45
 Leu Ile Ile Leu Leu Ser Lys Tyr Gln Gln Lys Thr Phe Ser Ser Leu
 50 55 60
 Leu Lys Glu Glu Thr Cys Ser Leu Asn Arg Ala Lys Gln His Leu Leu
 65 70 75 80
 Tyr Lys Ile Leu Arg Asp Phe Asn Thr Met Gln His Leu Arg Ser Leu
 85 90 95
 Gly Leu Asn Gly Trp Gly Glu Ile Pro Met Ser Pro Cys Leu
 100 105 110

<210> 603
 <211> 119
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0601

<400> 603
 Gln Phe Pro Arg Ile His Ala Asp Asp Ile Ile Asn Ser Met Asp Glu
 1 5 10 15
 Ile Thr Pro Asn Tyr Pro Leu Leu Arg Gln Asp Ser Leu Trp Asn Arg
 20 25 30
 Val Arg Val Ser Trp Arg Ala Asp Leu Ser Val Ser Ser Arg Tyr Glu
 35 40 45

Ile Ala Ser Ala Ile Ala Ile Leu Gly Leu Leu Val Ala Phe Cys Ala
50 55 60
Ser Ala Ala Val Ser Ile Ile Phe Thr Ala Asn Pro Leu Ala Gln Val
65 70 75 80
Phe Ile Asp Gly Cys Leu Ala Leu Gly Leu Leu Pro Ile Pro Leu Val
85 90 95
Ile Gly Leu Leu Ile Ile Gly Ile Ile Val Leu Leu Tyr Gly Ile Tyr
100 105 110
Leu Phe Pro Gln Gln Arg Glu
115

<210> 604
<211> 338
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0602

<400> 604
Asp Ser Gly Phe Met Lys Pro Leu Gly Phe Gln Glu Asn Leu Glu Ala
1 5 10 15
Leu Cys Asn Lys Thr Ser Arg Gln Leu Leu Lys Tyr Leu Ile Lys Gln
20 25 30
Ile Leu Phe Val Cys Gly Ala Ser Leu Leu Ile Ala Leu Glu Phe Ser
35 40 45
Phe Phe Leu Tyr Phe Phe Leu Phe Ser Gly Lys Thr Val Ile Pro Ala
50 55 60
Phe Cys Leu Ala Cys Phe Phe Leu Thr Leu Phe Val Cys Leu Val Thr
65 70 75 80
Arg Leu Tyr Leu Leu Ser Gly Lys Gly Asp Phe Phe Glu Asp Leu Ala
85 90 95
Ser Glu Tyr Leu Gln Gly Ala Val Pro Pro Asn Lys Arg Ser Gln Asn
100 105 110
Ile Val Glu Glu Gln Ser His Leu Ala Ala Ala Thr Lys Leu Ser
115 120 125
Ile Asn Leu Gln Asn Gln Glu Tyr Ser Leu Leu Ser Glu Ile Phe Lys
130 135 140
Phe Leu Pro Lys His Asp Leu Ile Arg Lys Phe Ser Cys Phe Cys Phe
145 150 155 160
Trp Lys Asp Tyr Phe Leu Phe Arg Glu Cys Leu Leu Gln Lys Ala Ile
165 170 175
Glu Ala Tyr Ile Lys Val Val Gln Ala Ile Pro Val Asp Leu Ser Ala
180 185 190
His Val Ser Leu Ala Asp Ala Tyr Val Ala Leu Ser Gly Leu Tyr Ala
195 200 205
Asp Pro Arg Lys Tyr Pro Glu Phe Asp Ala Asn Tyr Trp Ile Pro Ser
210 215 220
Gly Arg Tyr Ser Ala Glu Ile Gln Glu Lys Phe Phe Ala Thr Ala Arg
225 230 235 240
Arg Ala Ile Glu Glu Phe Gln Ile Leu Asn Glu Tyr Ala Pro Gly Asn
245 250 255
Ala Trp Val His Ala Gln Leu Ala Tyr Ser Tyr His Asp Leu Gln Met
260 265 270
Pro Met Glu Glu Ile Gln Glu Tyr Glu Ile Val Leu Lys Leu Lys Pro
275 280 285
Asn Asp Val Glu Thr Met Ser Lys Leu Gly Ile Leu Tyr Phe Gln Gln
290 295 300
Gly Met Asn Ala Lys Gly Leu Arg Ile Tyr Glu Glu Ile Lys Lys Arg
305 310 315 320

Asp Tyr Lys Lys Ser Gln Lys Leu Ile Lys Phe Tyr Gly Val Glu Tyr
 325 330 335
 Lys Tyr

<210> 605
 <211> 350
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0603

<400> 605
 Trp Lys Ile Met Arg Leu Ile Val Leu Met Gln Cys Leu Val Ser Leu
 1 5 10 15
 Phe Leu Ala Lys Lys Val Thr Val Thr Pro Ala Tyr Leu Leu Ala
 20 25 30
 Asn Phe Gly Gly Pro Arg His Ala Lys Asp Leu Gln Glu Phe Leu Ile
 35 40 45
 Ser Leu Leu Thr Asp Arg Asp Val Thr Gly Thr Phe Leu Pro Arg Val
 50 55 60
 Leu His Arg His Leu Phe Thr Phe Ile Ala Lys Lys Arg Val Pro Lys
 65 70 75 80
 Val Leu Pro Gln Tyr Gln Ser Leu Gln Asn Trp Ser Pro Ile Tyr Phe
 85 90 95
 Asp Thr Glu Thr Leu Ala Lys Thr Leu Ser Glu Ile Leu Arg Ala Pro
 100 105 110
 Val Ile Pro Phe His Arg Tyr Leu Pro Ser Thr His Glu Lys Thr Leu
 115 120 125
 Leu Ala Leu Arg Thr Leu His Thr Arg His Val Ile Gly Ile Pro Leu
 130 135 140
 Phe Pro His Phe Thr Tyr Ser Val Thr Gly Ser Ile Val Arg Phe Phe
 145 150 155 160
 Met Lys His Val Pro Glu Ile Pro Ile Ser Trp Ile Pro Gln Phe Gly
 165 170 175
 Ser Asp Ser Lys Phe Val Ser Leu Ile Thr Cys His Ile Arg Asp Phe
 180 185 190
 Leu Gln Lys Leu Gly Ile Leu Glu Lys Glu Cys Cys Phe Leu Phe Ser
 195 200 205
 Val His Gly Leu Pro Val Arg Tyr Ile Ser Gln Gly Asp Pro Tyr Ser
 210 215 220
 Lys Gln Cys Tyr Glu Ser Phe Ser Ala Ile Thr Thr Asn Phe Lys Gln
 225 230 235 240
 Ser Glu Asn Phe Leu Cys Phe Gln Ser Lys Phe Gly Pro Gly Lys Trp
 245 250 255
 Leu Ser Pro Ser Thr Ala Gln Leu Cys Gln Asn Ile Asp Thr Asp Lys
 260 265 270
 Pro Asn Val Ile Val Val Pro Phe Gly Phe Ile Ser Asp His Leu Glu
 275 280 285
 Thr Leu Tyr Glu Ile Glu Arg Asp Tyr Leu Pro Leu Leu Arg Ser Arg
 290 295 300
 Gly Tyr Arg Ala Leu Arg Ile Pro Ala Ile Tyr Ser Ser Pro Leu Trp
 305 310 315 320
 Val Ser Thr Leu Val Asp Ile Val Lys Glu Asn Ser Thr Val Val Ala
 325 330 335
 Glu Glu Leu Ile Lys Ser Gly Lys Lys His Thr Gly Ile Arg
 340 345 350

<210> 606
 <211> 262
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0604

<400> 606
 Cys Lys Lys Arg Gln Asn Ser Glu Ala Gln Leu Asn Val Lys Ile Lys
 1 5 10 15
 Phe Ser Trp Lys Val Asn Phe Leu Ile Cys Leu Leu Ala Val Gly Leu
 20 25 30
 Ile Phe Phe Gly Cys Ser Arg Val Lys Arg Glu Val Leu Val Gly Arg
 35 40 45
 Asp Ala Thr Trp Phe Pro Lys Gln Phe Gly Ile Tyr Thr Ser Asp Thr
 50 55 60
 Asn Ala Phe Leu Asn Asp Leu Val Ser Glu Ile Asn Tyr Lys Glu Asn
 65 70 75 80
 Leu Asn Ile Asn Ile Val Asn Gln Asp Trp Val His Leu Phe Glu Asn
 85 90 95
 Leu Asp Asp Lys Lys Thr Gln Gly Ala Phe Thr Ser Val Leu Pro Thr
 100 105 110
 Leu Glu Met Leu Glu His Tyr Gln Phe Ser Asp Pro Ile Leu Leu Thr
 115 120 125
 Gly Pro Val Leu Val Val Ala Gln Asp Ser Pro Tyr Gln Ser Ile Glu
 130 135 140
 Asp Leu Lys Gly Arg Leu Ile Gly Val Tyr Lys Phe Asp Ser Ser Val
 145 150 155 160
 Leu Val Ala Gln Asn Ile Pro Asp Ala Val Ile Ser Leu Tyr Gln His
 165 170 175
 Val Pro Ile Ala Leu Glu Ala Leu Thr Ser Asn Cys Tyr Asp Ala Leu
 180 185 190
 Leu Ala Pro Val Ile Glu Val Thr Ala Leu Ile Glu Thr Ala Tyr Lys
 195 200 205
 Gly Arg Leu Lys Ile Ile Ser Lys Pro Leu Asn Ala Asp Gly Leu Arg
 210 215 220
 Leu Ala Ile Leu Lys Gly Thr Asn Gly Asp Leu Leu Glu Gly Phe Asn
 225 230 235 240
 Ala Gly Leu Val Lys Thr Arg Arg Ser Gly Lys Tyr Asp Ala Ile Lys
 245 250 255
 Gln Arg Tyr Arg Leu Pro
 260

<210> 607
 <211> 196
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0605

<400> 607
 Leu Arg Lys Leu Cys Ser Ser Arg Gly Asp Val Arg Ile Leu Ala Gly
 1 5 10 15
 Lys Tyr Lys Gly Lys Ser Leu Lys Thr Phe Ser Asn Pro His Ile Arg
 20 25 30
 Pro Thr Ser Gly Leu Val Lys Glu Ala Phe Phe Ser Ile Cys Arg Glu
 35 40 45
 Asp Ile Glu Gly Ala Ala Phe Leu Asp Leu Phe Ala Gly Met Gly Ala
 50 55 60

Ile	Gly	Phe	Glu	Ala	Leu	Ser	Arg	Gly	Ala	Ala	Ser	Val	Val	Phe	Val
65					70					75				80	
Asp	Ile	Ser	Ile	Lys	Ala	Ile	Gln	Leu	Ile	His	Thr	Asn	Ser	Ala	Leu
				85					90					95	
Leu	Gly	Glu	Gln	Leu	Pro	Val	Val	Ile	Phe	Arg	Gln	Asp	Ala	Gln	Ser
			100					105					110		
Ala	Ile	Gln	Arg	Leu	Ile	Lys	Gln	Lys	Arg	Ser	Phe	Asp	Leu	Ile	Tyr
			115				120					125			
Ile	Asp	Pro	Pro	Tyr	Glu	Leu	Cys	Asn	Cys	Tyr	Val	Glu	Thr	Leu	Leu
	130					135					140				
Gln	Lys	Ile	Val	Ser	Gly	Asn	Ile	Leu	Asn	Pro	Glu	Gly	Thr	Leu	Phe
145					150					155				160	
Leu	Glu	Asn	Ala	Ser	Asp	Glu	Glu	Ile	Ala	Cys	Glu	Gly	Leu	Thr	Leu
			165						170					175	
Arg	Arg	Arg	Arg	Lys	Leu	Gly	Lys	Thr	Tyr	Leu	Ala	Glu	Tyr	Ile	Val
			180					185					190		
Glu	Lys	Asp	Pro												
			195												

<210> 608
 <211> 262
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0606

Ser	Ser	Tyr	Ser	Arg	Arg	Gln	Leu	Arg	Phe	Tyr	Thr	Gly	Ser	Leu	Gln
1				5					10					15	
Met	His	Ile	Tyr	Gly	Leu	Ala	Asp	Leu	His	Leu	Ala	Leu	Gly	Val	Pro
			20					25					30		
Glu	Lys	Thr	Met	Glu	Val	Phe	Gly	Asp	Pro	Trp	Ile	Gly	Tyr	His	Gln
		35					40					45			
Lys	Ile	Cys	Ser	Glu	Trp	Gln	Ala	Val	Val	His	Pro	Glu	Asp	Ile	Val
	50					55					60				
Leu	Leu	Pro	Gly	Asp	Ile	Ser	Trp	Ala	Met	Asn	Leu	Ser	Glu	Ala	His
65					70					75				80	
Lys	Asp	Phe	Ala	Phe	Ile	Gly	Asp	Leu	Pro	Gly	Thr	Lys	Tyr	Met	Ile
			85						90					95	
Arg	Gly	Asn	His	Asp	Tyr	Trp	Ser	Ser	Ala	Ser	Thr	Ser	Lys	Ile	Leu
			100					105					110		
Gln	Ala	Leu	Pro	Pro	Ser	Leu	Tyr	Tyr	Leu	Asn	Gln	Gly	Phe	Ala	Leu
		115					120					125			
Leu	Thr	Pro	His	Leu	Ala	Val	Val	Gly	Val	Arg	Leu	Trp	Asp	Ser	Pro
	130					135					140				
Thr	Ile	Cys	Val	Lys	Lys	Glu	Asn	Phe	Leu	Thr	Pro	Ser	Thr	Gln	Glu
145					150					155				160	
Gln	Ser	Tyr	Thr	Glu	Gln	Asp	Glu	Lys	Ile	Phe	Leu	Arg	Glu	Leu	Gly
				165					170					175	
Arg	Leu	Lys	Arg	Ala	Phe	Ala	Ala	Leu	Pro	Lys	Glu	Val	Thr	Glu	Val
			180					185						190	
Ile	Val	Met	Thr	His	Tyr	Pro	Pro	Ile	Ser	Ser	Asp	Gly	Thr	Pro	Gly
		195				200						205			
Pro	Ile	Ser	Glu	Phe	Leu	Glu	Ala	Asp	Gly	Arg	Val	Ser	Leu	Cys	Leu
	210					215					220				
Phe	Gly	His	Ile	His	Lys	Val	Gln	Arg	Pro	Ile	Asp	Gly	Phe	Gly	Asn
225					230					235					240
Ile	Arg	Gly	Ile	His	Tyr	Ile	Leu	Val	Ala	Ala	Asp	Tyr	Val	Asn	Phe
				245					250					255	

Val Pro Gln Glu Val Met
260

<210> 609
<211> 446
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0607

<400> 609
Asn Arg Arg Ile Gln Met Ile Glu Asn Asp Phe Pro Glu Ala Ser Asn
1 5 10 15
Phe Glu Ser Ser His Phe Tyr Arg Asp Lys Val Gly Val Ile Ile Leu
20 25 30
Cys Gly Gly Glu Gly Lys Arg Leu Ser Pro Leu Thr Asn Cys Arg Cys
35 40 45
Lys Pro Thr Val Ser Phe Gly Gly Arg Tyr Lys Leu Ile Asp Ile Pro
50 55 60
Ile Ser His Ala Ile Ser Ala Gly Phe Ser Lys Ile Phe Val Ile Gly
65 70 75 80
Gln Tyr Leu Thr Tyr Thr Leu Gln Gln His Leu Phe Lys Thr Tyr Phe
85 90 95
Tyr His Gly Val Leu Gln Asp Gln Ile His Leu Leu Ala Pro Glu Ala
100 105 110
Arg Gln Gly Asp Gln Ile Trp Tyr Gln Gly Thr Ala Asp Ala Ile Arg
115 120 125
Lys Asn Leu Leu Tyr Phe Glu Asp Thr Glu Ile Glu Tyr Phe Leu Ile
130 135 140
Leu Ser Gly Asp Gln Leu Tyr Asn Met Asp Phe Arg Ser Ile Val Asp
145 150 155 160
Thr Ala Ile Arg Thr His Val Asp Met Val Leu Val Ala Gln Pro Ile
165 170 175
Pro Glu Lys Asp Ala Tyr Arg Met Gly Val Leu Asp Ile Asp Ser Glu
180 185 190
Gly Lys Leu Ile Asp Phe Tyr Glu Lys Pro Gln Glu Lys Glu Val Leu
195 200 205
Lys Arg Phe Gln Leu Ser Ser Glu Asp Arg Arg Ile His Lys Leu Thr
210 215 220
Glu Asp Ser Gly Asp Phe Leu Gly Ser Met Gly Ile Tyr Leu Phe Arg
225 230 235 240
Arg Asp Ser Leu Phe Ser Leu Leu Arg Glu Glu Glu Gly Asn Asp Phe
245 250 255
Gly Lys His Leu Ile Gln Ala Gln Met Lys Arg Gly Gln Val Gln Thr
260 265 270
Leu Leu Tyr Asn Gly Tyr Trp Ala Asp Ile Gly Thr Ile Glu Ser Tyr
275 280 285
Tyr Glu Ala Asn Ile Ala Leu Thr Gln Lys Pro His Ala Glu Lys Arg
290 295 300
Gly Leu Asn Cys Tyr Asp Asp Asn Gly Met Ile Tyr Ser Lys Asn His
305 310 315 320
His Leu Pro Gly Ala Ile Ile Thr Asp Ser Met Ile Ser Ser Ser Leu
325 330 335
Leu Cys Glu Gly Cys Val Ile Asn Thr Ser His Val Ser Arg Ser Val
340 345 350
Leu Gly Ile Arg Ser Lys Ile Gly Glu Asn Ser Val Val Asp Gln Ser
355 360 365
Ile Ile Met Gly Asn Ala Arg Tyr Gly Ser Pro Ser Met Pro Ser Leu
370 375 380

Gly Ile Gly Lys Asp Cys Glu Ile Arg Lys Ala Ile Ile Asp Glu Asn
 385 390 395 400
 Cys Cys Ile Gly Asn Gly Val Lys Leu Gln Asn Leu Lys Gly Tyr Ile
 405 410 415
 Lys Tyr Asp Ser Pro Asp Lys Lys Leu Phe Val Arg Asp Asn Ile Ile
 420 425 430
 Ile Val Pro Gln Gly Thr His Ile Pro Asp Asn Tyr Ile Phe
 435 440 445

<210> 610
 <211> 225
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0608

<400> 610
 Val Ser Phe Leu Tyr Phe Val Lys Asn Gly Arg Arg Leu Trp Arg Met
 1 5 10 15
 Met Asn Tyr Glu Asp Ala Lys Leu Arg Gly Gln Ala Val Ala Ile Leu
 20 25 30
 Tyr Gln Ile Gly Ala Ile Lys Phe Gly Lys His Ile Leu Ala Ser Gly
 35 40 45
 Glu Glu Thr Pro Leu Tyr Val Asp Met Arg Leu Val Ile Ser Ser Pro
 50 55 60
 Glu Val Leu Gln Thr Val Ala Thr Leu Ile Trp Arg Leu Arg Pro Ser
 65 70 75 80
 Phe Asn Ser Ser Leu Leu Cys Gly Val Pro Tyr Thr Ala Leu Thr Leu
 85 90 95
 Ala Thr Ser Ile Ser Leu Lys Tyr Asn Ile Pro Met Val Leu Arg Arg
 100 105 110
 Lys Glu Leu Gln Asn Val Asp Pro Ser Asp Ala Ile Lys Val Glu Gly
 115 120 125
 Leu Phe Thr Pro Gly Gln Thr Cys Leu Val Ile Asn Asp Met Val Ser
 130 135 140
 Ser Gly Lys Ser Ile Ile Glu Thr Ala Val Ala Leu Glu Glu Asn Gly
 145 150 155 160
 Leu Val Val Arg Glu Ala Leu Val Phe Leu Asp Arg Arg Lys Glu Ala
 165 170 175
 Cys Gln Pro Leu Gly Pro Gln Gly Ile Lys Val Ser Ser Val Phe Thr
 180 185 190
 Val Pro Thr Leu Ile Lys Ala Leu Ile Ala Tyr Gly Lys Leu Ser Ser
 195 200 205
 Gly Asp Leu Thr Leu Ala Asn Lys Ile Ser Glu Ile Leu Glu Ile Glu
 210 215 220
 Ser
 225

<210> 611
 <211> 105
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0609

<400> 611
 Gln Asn Thr Lys Asn Ser Leu Ile Arg Glu Asn Met Leu Ile Arg Leu
 1 5 10 15

Phe Leu Gly Ile Ser Leu Pro Lys Gly Phe Pro Leu Tyr Leu Glu Pro
 20 25 30
 Pro Leu Val Leu Ala Thr Phe Gln Gly Thr Gln Phe Val Gly Thr Tyr
 35 40 45
 Ser Glu Ala Thr Asn Pro Leu Tyr Ile Asp Asn Leu Asn Leu Asn Tyr
 50 55 60
 His Tyr Thr Gln Glu Leu Leu Tyr Lys Ala Val Pro Cys Asn Tyr Lys
 65 70 75 80
 Ser Ile Tyr Arg Glu Ile Pro Leu Ile Ile Phe Pro Glu Val Leu Ile
 85 90 95
 Gly Ser Thr Pro Thr Gln Ser Thr Glu
 100 105

<210> 612
 <211> 474
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0610

<400> 612
 Arg Ile Phe Leu Arg Phe Lys Gly Ser Ile Met Lys Glu Glu Arg Ser
 1 5 10 15
 Ser Glu Ile Leu Pro Arg Val Lys Glu Thr Lys Lys His Ala Tyr Val
 20 25 30
 Ser Met Gln Glu Lys Ser Cys Val Gly Glu Cys Ala Val Val Ala Ser
 35 40 45
 Glu Ser Glu Glu Ala Glu Ser Val Thr Val Thr Lys Ile Ala Lys Leu
 50 55 60
 Gln Arg Met Gly Ile Glu Glu Leu Asn Ile Leu Ala Arg Gln Tyr Gly
 65 70 75 80
 Val Lys Asn Ile Gly Ser Leu Thr Lys Ser Gln Val Val Phe Glu Ile
 85 90 95
 Val Lys Ala Lys Ser Glu Arg Pro Asp Glu Leu Leu Ile Gly Glu Gly
 100 105 110
 Val Leu Glu Val Leu Pro Asp Gly Phe Gly Phe Leu Arg Ser Pro Thr
 115 120 125
 Tyr Asn Tyr Leu Pro Ser Ala Glu Asp Ile Tyr Val Ser Pro Ala Gln
 130 135 140
 Ile Arg Arg Phe Asp Leu Lys Lys Gly Asp Thr Ile Ile Gly Thr Ile
 145 150 155 160
 Arg Ser Pro Lys Glu Lys Glu Lys Tyr Phe Ala Leu Leu Lys Val Asp
 165 170 175
 Lys Ile Asn Gly Ser Thr Pro Asp Lys Ala Lys Glu Arg Val Leu Phe
 180 185 190
 Glu Asn Leu Thr Pro Leu Tyr Pro Asn Gln Arg Ile Val Met Glu Met
 195 200 205
 Gly Lys Asp His Leu Ala Glu Arg Val Leu Asp Leu Thr Ala Pro Ile
 210 215 220
 Gly Lys Gly Gln Arg Gly Leu Ile Val Ala Pro Pro Arg Ser Gly Lys
 225 230 235 240
 Thr Val Ile Leu Gln Ser Ile Ala His Ala Ile Ala Val Asn Asn Pro
 245 250 255
 Asp Ile Val Leu Ile Val Leu Leu Ile Asp Glu Arg Pro Glu Glu Val
 260 265 270
 Thr Asp Met Ile Arg Gln Val Arg Gly Glu Val Val Ala Ser Thr Phe
 275 280 285
 Asp Glu Gln Pro Glu Arg His Ile Gln Val Ala Glu Met Val Ile Glu
 290 295 300

Lys Ala Arg Arg Leu Val Glu His Gly Asn Asp Val Val Ile Leu Leu
 305 310 315 320
 Asp Ser Ile Thr Arg Leu Ala Arg Ala Tyr Asn Thr Val Gln Pro His
 325 330 335
 Ser Gly Lys Ile Leu Thr Gly Gly Val Asp Ala Ser Ala Leu His Lys
 340 345 350
 Pro Lys Arg Phe Phe Gly Ala Ala Arg Asn Ile Glu Gly Gly Gly Ser
 355 360 365
 Leu Thr Ile Leu Ala Thr Ala Leu Ile Asp Thr Gly Ser Arg Met Asp
 370 375 380
 Glu Val Ile Phe Glu Glu Phe Lys Gly Thr Gly Asn Met Glu Leu Val
 385 390 395 400
 Leu Asp Arg Arg Leu Ser Asp Arg Arg Thr Tyr Pro Ala Ile Asp Leu
 405 410 415
 Ile Lys Ser Gly Thr Arg Lys Glu Glu Leu Leu Tyr His Pro Ser Glu
 420 425 430
 Leu Glu Arg Val Tyr Leu Phe Arg Gln Ala Ile Ala Asp Leu Thr Thr
 435 440 445
 Ile Asp Ala Met His Leu Leu Glu Gly Arg Leu Lys Lys Thr Asn Ser
 450 455 460
 Asn Ala Glu Phe Leu Leu Ser Leu Lys Glu
 465 470

<210> 613
 <211> 238
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0611

<400> 613
 Arg Arg Asn Arg Arg Asp Ala Lys Thr Ser Glu Arg Glu Asp Gly Ile
 1 5 10 15
 Ser Tyr Asp Phe Ile Arg Ser Tyr Ser Cys Glu Tyr Leu Asn Trp Lys
 20 25 30
 Lys Leu Gly Arg Met Leu Lys Leu Leu Lys Val Ser Ile Thr Gly Asp
 35 40 45
 Leu Ser Ser Gly Lys Thr Glu Ala Cys Gln Val Phe Gln Glu Leu Gly
 50 55 60
 Ala Tyr Val Val Ser Ala Asp Glu Ile Ser His Ser Phe Leu Ile Pro
 65 70 75 80
 His Thr Arg Ile Gly Arg Arg Val Ile Asp Leu Leu Gly Ser Asp Val
 85 90 95
 Val Val Asp Gly Ala Phe Asp Ala Gln Ala Ile Ala Ala Lys Val Phe
 100 105 110
 Tyr Asn Ser Val Leu Leu Gln Gly Leu Glu Ala Ile Leu His Pro Glu
 115 120 125
 Val Cys Arg Ile Ile Glu Glu Gln Tyr His Gln Ser Ile Gln Asp Gly
 130 135 140
 Asn Tyr Pro Leu Phe Val Ala Glu Val Pro Leu Leu Tyr Glu Ile His
 145 150 155 160
 Tyr Ala Lys Trp Phe Asp Ser Val Ile Leu Val Met Ala Asn Glu Asp
 165 170 175
 Ile Arg Arg Glu Arg Phe Met Lys Lys Thr Gly Arg Ser Ser Glu Asp
 180 185 190
 Phe Asp Gln Arg Cys Ser Arg Phe Leu Asn Val Glu Glu Lys Leu Ala
 195 200 205
 Gln Ala Asp Val Val Val Glu Asn Asn Gly Thr Lys Lys Glu Leu His
 210 215 220

Gln Lys Ile Glu Glu Tyr Phe Tyr Ala Leu Lys Gly Ala Leu
 225 230 235

<210> 614
 <211> 889
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0612

<400> 614
 Arg Cys Ile His Thr Ser Leu Leu Cys Thr Val Glu Arg Pro Arg Arg
 1 5 10 15
 Glu Tyr Ala Met Lys Lys Leu Phe Val Leu Asp Ala Ser Gly Phe Ile
 20 25 30
 Phe Arg Ala Tyr Phe Ala Leu Pro Glu Met Lys Asn His Gln Gly Gln
 35 40 45
 Ala Thr Gln Ala Val Phe Gly Phe Ile Arg Ser Leu Asn Lys Leu Ile
 50 55 60
 Lys Glu Phe Ser Pro Glu Tyr Met Ile Ser Val Phe Asp Gly Pro Asn
 65 70 75 80
 Asn Lys Gln Ser Arg Gln Ala Ile Tyr Ala Asp Tyr Lys Ser Asn Arg
 85 90 95
 Gln Lys Lys Phe Glu Asp Ile Pro Pro Gln Ile Ala Leu Val Lys Glu
 100 105 110
 Tyr Cys Ser Leu Ile Gly Leu Ala Tyr Leu Glu Lys Glu Ser Val Glu
 115 120 125
 Ala Asp Asp Val Ile Ala Ser Ile Ala Lys Lys Ala Arg Glu Glu Asn
 130 135 140
 Tyr Lys Val Tyr Val Cys Thr Ala Asp Lys Asp Leu Leu Gln Leu Val
 145 150 155 160
 Asn Asp His Val Val Ala Trp Asn Pro Trp Ala Asp Gln Gly Val Val
 165 170 175
 Gly Ile Ser Glu Val Ile Glu Arg Tyr Gly Ile Pro Pro Gly Asn Ile
 180 185 190
 Pro Asp Tyr Leu Ala Leu Val Gly Asp Ser Ser Asp Asn Ile Pro Gly
 195 200 205
 Leu Pro Gly Cys Gly Pro Lys Lys Ala Ala Ala Leu Leu Lys Gln Phe
 210 215 220
 Gly Ser Val Glu Gly Leu Leu Glu Asn Leu Asp Ala Val Lys Gly Leu
 225 230 235 240
 Ser Gln Thr Met Leu Ser Glu Arg Gln Glu Thr Leu Lys Leu Ser Lys
 245 250 255
 Arg Leu Ala Leu Leu Asp Ser Asn Ile Pro Ile Pro Val Pro Ile Glu
 260 265 270
 Ser Leu Thr Phe Pro Gln His Pro Val Asp Glu Glu Lys Leu Ile His
 275 280 285
 Phe Tyr Ile Gln Gln Gly Phe Lys Thr Leu Val Pro Ser Lys Gln Thr
 290 295 300
 Glu Ala Ala Thr Val Asp Val Gln Ile Ile Lys Asp Ala Glu Ser Leu
 305 310 315 320
 Thr Asn Ile Leu Asn Leu Val Gln Gly Gly Asp Ile Ala Phe Ala Val
 325 330 335
 Ala Tyr Thr Gly Asn His Leu Leu Ser Leu Lys Leu Glu Gly Leu Ala
 340 345 350
 Leu Thr Gln Gly Ser Gly Val Phe Phe Ile Ala Leu Glu Glu Glu Gly
 355 360 365
 Thr Lys Ile Leu Pro Ile Leu Lys Asp Phe Phe Leu Arg Glu Asp Leu
 370 375 380

Thr	Phe	Tyr	Gly	Tyr	Asn	Leu	Lys	Arg	Asp	Cys	His	Ala	Leu	Leu	Asn
385					390					395					400
Ala	Gly	Ile	Val	Ile	Arg	Glu	Ile	Ser	Tyr	Asp	Leu	Ala	Leu	Ala	Glu
			405						410					415	
His	Leu	Thr	Asn	Gly	Gly	Lys	Ile	Ser	Phe	Gln	Ser	Leu	Leu	Val	
			420				425						430		
Asn	His	Gly	Phe	Thr	Glu	Thr	Ala	His	Arg	Phe	Ala	Lys	Glu	Trp	Gly
		435					440					445			
Asn	Ser	Gly	Leu	Pro	Ile	Gly	Arg	Leu	Pro	Glu	Gln	Pro	Glu	Gln	Tyr
	450					455					460				
Phe	Gly	Glu	Phe	Val	Ala	Tyr	Leu	Pro	Ile	Ile	Lys	Asp	Ala	Ile	Leu
465					470					475					480
Glu	Glu	Ile	Asn	Arg	Lys	Asn	Leu	Asn	His	Ile	Leu	Ser	Asp	Ile	Glu
			485						490					495	
Met	Pro	Leu	Glu	Lys	Val	Leu	Phe	Ser	Met	Glu	Arg	Ala	Gly	Val	Pro
		500						505					510		
Leu	Asp	Val	Glu	Glu	Leu	Ala	Ile	Leu	Glu	Ala	Leu	Phe	Glu	Thr	Glu
	515						520						525		
Leu	Ala	Val	Leu	Thr	Glu	Glu	Ile	Tyr	Asp	Leu	Ser	Gly	Arg	Pro	Phe
	530					535					540				
Asn	Ile	Lys	Ser	Pro	Lys	Gln	Leu	Ser	Asp	Ile	Leu	Tyr	Asn	Glu	Leu
545					550					555					560
Gly	Leu	Arg	Pro	Ile	Asp	Lys	Ala	Lys	Ser	Thr	Arg	Ala	Glu	Val	Leu
			565						570					575	
Glu	Ala	Leu	Arg	Ser	Glu	His	Pro	Ile	Ile	Glu	Lys	Leu	Leu	Ala	Phe
		580						585					590		
Arg	Thr	Ile	Glu	Lys	Leu	Leu	Ser	Thr	Tyr	Val	Lys	Ala	Leu	Pro	Lys
	595						600						605		
Gln	Val	Asp	Ser	His	Thr	Gln	Arg	Ile	His	Pro	Ser	Phe	Asp	Gln	Thr
	610					615						620			
Gly	Ala	Val	Thr	Gly	Arg	Leu	Ala	Cys	Arg	Asp	Pro	Asn	Leu	Gln	Asn
625					630					635					640
Ile	Pro	Ile	Arg	Ser	Glu	Arg	Gly	Ile	Leu	Leu	Arg	Lys	Ala	Phe	Arg
			645						650					655	
Leu	Ser	Glu	Lys	Asn	Ser	Tyr	Phe	Leu	Ser	Ala	Asp	Tyr	Ser	Gln	Ile
		660						665					670		
Glu	Leu	Arg	Phe	Leu	Ala	His	Leu	Ser	Gln	Asp	Lys	Ser	Leu	Lys	Phe
	675						680					685			
Ala	Phe	Glu	Ser	Gly	Glu	Asp	Ile	His	Ala	Phe	Thr	Ala	Ser	Gln	Val
	690					695					700				
Phe	His	Val	Pro	Leu	Glu	Gln	Val	Ser	Lys	Glu	Gln	Arg	Met	Gln	Ala
705					710					715					720
Lys	Thr	Val	Asn	Phe	Gly	Ile	Val	Tyr	Gly	Gln	Gln	Ala	Phe	Gly	Leu
			725						730					735	
Ala	Lys	Val	Leu	Lys	Ile	Ser	Ile	Gly	Glu	Ala	Gln	Glu	Leu	Ile	Gln
		740						745					750		
Ala	Tyr	Phe	Ser	Arg	Tyr	Pro	Glu	Ile	Ala	His	Phe	Val	Glu	Glu	Thr
	755						760					765			
Ile	Gln	Gln	Ala	Ala	Lys	Asp	Leu	Arg	Val	Thr	Thr	Met	Leu	Gly	Arg
	770					775					780				
Glu	Arg	Ile	Ile	Asp	Ser	Trp	Asn	Glu	Phe	Pro	Gly	Ser	Arg	Ala	Ala
785				790						795					800
Ser	Gly	Arg	Phe	Ala	Val	Asn	Thr	Arg	Ile	Gln	Gly	Ser	Ala	Ala	Glu
			805						810					815	
Leu	Ile	Lys	Leu	Ala	Met	Leu	Asp	Ile	Ser	Gln	Ala	Ile	Lys	Gln	Gln
		820						825					830		
Gln	Met	Lys	Ser	Arg	Met	Leu	Leu	Gln	Ile	His	Asp	Glu	Leu	Leu	Phe
	835					840					845				
Glu	Val	Pro	Glu	Glu	Glu	Ile	Glu	Glu	Met	Gln	Arg	Leu	Val	Arg	Glu
	850					855					860				

Lys Met Glu Ser Ala Met Thr Leu Ser Val Pro Ile Val Val Asn Ile
 865 870 875 880
 Leu Ile Gly Lys Asn Trp Ala Glu Cys
 885

<210> 615
 <211> 335
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0613

<400> 615
 Val Val Met Lys Thr Leu Trp His Phe Val Ser Lys Ala Phe Leu Ser
 1 5 10 15
 Ile Val Gly Leu Cys Cys Gly Val Val Leu Ala Phe Val Val Ile Phe
 20 25 30
 Ala Leu Ile Ala Ser Ser Leu Gly Asn Gly Asp Ala Thr Phe Val Ser
 35 40 45
 Leu Pro Asp Ala Gln Gly Glu Val Lys Asp Leu Gly Lys Thr Ala Pro
 50 55 60
 Ile Ile Ala Val Ile Glu Met Lys Asp Val Ile Ala Ser Ser Lys Asn
 65 70 75 80
 Thr Ala Lys Thr Ile Gln Asn Ile Leu Glu Gly Phe Glu Lys Ala Pro
 85 90 95
 Leu Lys Asp Arg Val Lys Gly Ile Val Ile Asp Met Asp Cys Pro Gly
 100 105 110
 Gly Glu Val Phe Glu Ile Asp Arg Ile Tyr Ser Met Leu Arg Phe Trp
 115 120 125
 Lys Glu Arg Lys Gly Phe Pro Ile Tyr Ile Tyr Val Asn Gly Leu Cys
 130 135 140
 Ala Ser Gly Gly Tyr Tyr Val Ser Cys Ala Ala Thr Lys Ile Tyr Ala
 145 150 155 160
 Thr Ser Ser Ser Leu Ile Gly Ser Ile Gly Val Arg Ser Gly Pro Phe
 165 170 175
 Phe Asn Val Lys Glu Gly Leu Asn Arg Tyr Gly Val Glu Ser Asp Leu
 180 185 190
 Leu Thr Ala Gly Lys Asp Lys Ala Pro Met Asn Pro Tyr Thr Pro Trp
 195 200 205
 Thr Ser His Asp Arg Glu Glu Arg Gln Ala Thr Leu Asp Phe Leu Tyr
 210 215 220
 Gly Gln Phe Val Asp Ile Val Thr Gln Asn Arg Pro Leu Leu Thr Lys
 225 230 235 240
 Glu Lys Leu Val His Thr Leu Gly Ala Arg Ile Phe Ser Pro Glu Lys
 245 250 255
 Ala Lys Gln Glu Gly Tyr Ile Asp Val Val Gly Ala Thr Lys Glu Gln
 260 265 270
 Val Leu Gln Asp Ile Val Ala Val Cys Lys Ile Glu Asp Asn Tyr Arg
 275 280 285
 Val Ile Gly Ser Gly Gly Asp Gly Trp Trp Lys Arg Val Ala Ser Ala
 290 295 300
 Ala Ala Ser Ser Pro Leu Val Thr Gly Met Ile Lys His Asp Ile Leu
 305 310 315 320
 Pro Leu Ser His Asp Ala Ala Tyr Ile Pro Pro Tyr Leu Ala Leu
 325 330 335

<210> 616
 <211> 551
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0614

<400> 616

Val Phe Ile Arg His Lys Val Gly Lys Glu Phe Met Gln Ser Ser Glu
1 5 10 15
Val Lys Pro Phe Ser Arg Leu Arg Ala Tyr Leu Cys Pro Ile Tyr Lys
20 25 30
Ser Glu Phe Ser Lys Phe Val Pro Leu Phe Leu Leu Ala Phe Phe Val
35 40 45
Gly Phe Asn Tyr Cys Leu Leu Lys Asn Met Lys Asp Thr Leu Val Ile
50 55 60
Val Gly Ser Asp Ala Gly Ala Glu Val Ile Pro Phe Leu Lys Val Trp
65 70 75 80
Gly Ile Val Pro Gly Ala Val Ile Val Thr Met Val Tyr Gly Trp Leu
85 90 95
Gly Ser Arg Tyr Pro Arg Asp Thr Val Phe Tyr Cys Phe Met Ala Ala
100 105 110
Phe Leu Gly Phe Phe Phe Leu Phe Ala Val Ile Ile Tyr Pro Val Gly
115 120 125
Asp Ser Leu His Leu Asn Ser Leu Ala Asp Lys Leu Gln Glu Leu Leu
130 135 140
Pro Gln Gly Leu Arg Gly Phe Ile Val Met Val Arg Tyr Trp Ser Tyr
145 150 155 160
Ser Ile Tyr Tyr Val Met Ser Glu Leu Trp Ser Ser Val Val Leu Ser
165 170 175
Met Leu Phe Trp Gly Leu Ala Asn Gln Ile Thr Thr Ile Thr Glu Ala
180 185 190
Gly Arg Phe Tyr Ala Leu Ile Asn Thr Gly Leu Asn Leu Ser Ser Ile
195 200 205
Cys Ala Gly Glu Ile Ser Tyr Trp Met Gly Lys Gln Thr Phe Val Ala
210 215 220
Tyr Ser Phe Ala Cys Asp Ser Trp His Ser Val Met Leu Asn Leu Thr
225 230 235 240
Met Leu Ile Thr Cys Ser Gly Leu Ile Met Ile Trp Leu Tyr Arg Arg
245 250 255
Ile His His Leu Thr Ile Asp Thr Ser Ile Pro Pro Ser Arg Arg Val
260 265 270
Leu Ala Glu Glu Gly Ala Ala Thr Ala Asn Leu Lys Glu Lys Lys Lys
275 280 285
Pro Lys Ala Lys Ala Arg Asn Leu Phe Leu His Leu Ile Gln Ser Arg
290 295 300
Tyr Leu Leu Gly Leu Ala Ile Ile Val Leu Ser Tyr Asn Leu Val Ile
305 310 315 320
His Leu Phe Glu Val Val Trp Lys Asp Gln Val Ser Gln Ile Tyr Ser
325 330 335
Ser His Val Glu Phe Asn Gly Tyr Met Ser Arg Ile Thr Thr Leu Ile
340 345 350
Gly Val Val Ser Val Leu Ala Ala Val Leu Leu Thr Gly Gln Cys Ile
355 360 365
Arg Lys Trp Gly Trp Thr Val Gly Ala Leu Val Thr Pro Leu Val Met
370 375 380
Leu Val Ser Gly Leu Leu Phe Phe Gly Thr Ile Phe Ala Ala Lys Arg
385 390 395 400
Asp Ile Ser Ile Phe Gly Gly Val Leu Gly Met Thr Pro Leu Ala Leu
405 410 415
Ala Ala Trp Thr Gly Gly Met Gln Asn Val Leu Ser Arg Gly Thr Lys
420 425 430
Phe Thr Phe Phe Asp Gln Thr Lys Glu Met Ala Phe Ile Pro Leu Ser
435 440 445

Pro Glu Asp Lys Asn His Gly Lys Ala Ala Ile Asp Gly Val Val Ser
 450 455 460
 Arg Ile Gly Lys Ser Gly Gly Ser Leu Ile Tyr Gln Gly Leu Leu Val
 465 470 475 480
 Ile Phe Ser Ser Val Ala Ala Ser Leu Asn Val Ile Ala Leu Val Leu
 485 490 495
 Leu Ile Ile Met Val Val Trp Ile Ala Val Val Ala Tyr Ile Gly Lys
 500 505 510
 Glu Tyr Tyr Ser Arg Ala Ala Asp Ala Val Ala Thr Leu Lys Gln Pro
 515 520 525
 Lys Glu Pro Ser Ser Ser Ile Val Arg Glu Ala Gln Glu Ser Val Glu
 530 535 540
 Gln Glu Glu Met Ala Val Leu
 545 550

<210> 617
 <211> 172
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0615

<400> 617
 Leu Ala Lys Ile Met Arg Gln Phe Cys Asn Leu Leu Ser Leu Ser Arg
 1 5 10 15
 Leu Trp Leu Ala Leu Tyr Phe Cys Gln Glu Lys Leu His Ile Arg Leu
 20 25 30
 Leu Ala Ile Val Gly Ala Met Leu Ser Asp Val Leu Asp Gly Tyr Leu
 35 40 45
 Ala Arg Arg Tyr Lys Ala Thr Ser Arg Leu Gly Ser Ile Leu Asp Pro
 50 55 60
 Ile Thr Asp Lys Val Phe Val Phe Val Cys Ile Thr Val Leu Tyr Met
 65 70 75 80
 Glu Gly Ser Leu Ser Ile Ala His Leu Phe Phe Ile Cys Ala Arg Asp
 85 90 95
 Leu Phe Leu Ile Ile Phe Val Cys Tyr Leu Ser Leu Val Lys Gly Trp
 100 105 110
 Lys Gly Tyr Asp Tyr Gly Ser Leu Phe Trp Gly Lys Ile Phe Thr Val
 115 120 125
 Val Gln Phe Ile Ile Leu Leu Gly Val Thr Ala Gly Gly Glu Ile Pro
 130 135 140
 Trp Thr Gly Leu Val Pro Leu Val Ala Leu Gly Phe Leu Tyr Phe Leu
 145 150 155 160
 Glu Arg Ile Met Asp Tyr Lys Lys Gln Phe Leu Arg
 165 170

<210> 618
 <211> 478
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0616

<400> 618
 Thr Leu Thr Asn Tyr Glu Ser Ser Leu Leu Met Asp Lys Ser Thr Gly
 1 5 10 15
 Val Pro Leu Pro Ser Pro Pro His Ser Lys Glu Ser Glu Met Ile Val
 20 25 30

Leu Gly Cys Met Leu Thr Gly Val His Tyr Leu Asn Leu Ala Ala Asn
 35 40 45
 Gln Leu Tyr Glu Glu Asp Phe Tyr Tyr Leu Glu His Lys Ile Ile Phe
 50 55 60
 Arg Val Leu Gln Asp Ala Phe Lys Gln Asp Lys Pro Ile Asp Val His
 65 70 75 80
 Leu Ala Gly Glu Glu Leu Lys Arg His Asn Gln Ile Thr Val Ile Gly
 85 90 95
 Gly Pro Ser Tyr Leu Ile Thr Leu Ala Glu Phe Ala Gly Thr Ala Ala
 100 105 110
 Tyr Leu Glu Glu Tyr Val Asp Ile Ile Arg Ser Lys Ser Ile Leu Arg
 115 120 125
 Lys Met Ile Ser Thr Ala Lys Glu Ile Glu Lys Arg Ala Leu Glu Gln
 130 135 140
 Pro Lys Asn Val Ala Glu Ala Leu Asp Glu Ala Gln Asn Ser Phe Phe
 145 150 155 160
 Lys Ile Ser Gln Ser Thr Ser Val Ser Gln Tyr Thr Leu Val Ala Asp
 165 170 175
 Lys Leu Arg Gly Leu Thr Thr Thr Thr Asp Lys Pro Tyr Leu Val Gln
 180 185 190
 Leu Gln Glu Arg Gln Glu Leu Phe Leu Gln Asn Ala Gln Gly Asp Asn
 195 200 205
 Lys Ser Phe Phe Thr Gly Ile Pro Thr His Phe Ile Asp Leu Asp Gln
 210 215 220
 Leu Ile His Gly Phe Ser Pro Ser Asn Leu Met Ile Leu Ala Ala Arg
 225 230 235 240
 Pro Ala Met Gly Lys Thr Ala Leu Ala Leu Asn Ile Ala Glu Asn Leu
 245 250 255
 Cys Phe Gln Asn Arg Leu Pro Ile Gly Ile Phe Ser Leu Glu Met Thr
 260 265 270
 Val Asp Gln Leu Ile His Arg Met Ile Cys Ser Arg Ser Glu Val Asp
 275 280 285
 Ser Lys Lys Ile Ser Ile Gly Asp Leu Ser Gly His Asp Phe Gln Arg
 290 295 300
 Ile Val Ser Val Ile Asn Glu Met Gln Glu His Thr Leu Leu Ile Asp
 305 310 315 320
 Asp Gln Pro Gly Leu Lys Val Ser Asp Leu Arg Ala Arg Ala Arg Arg
 325 330 335
 Met Lys Glu Ser Tyr Asp Ile Gln Phe Leu Ile Ile Asp Tyr Leu Gln
 340 345 350
 Leu Leu Ser Gly Ser Gly Thr Leu Arg Ala Thr Glu Ser Arg Gln Thr
 355 360 365
 Glu Ile Ser Glu Ile Ser Arg Met Leu Lys Thr Leu Ala Arg Glu Leu
 370 375 380
 Asn Ile Pro Ile Leu Cys Leu Ser Gln Leu Ser Arg Lys Val Glu Asp
 385 390 395 400
 Arg Ala Asn His Arg Pro Met Met Ser Asp Leu Arg Glu Ser Gly Ser
 405 410 415
 Ile Glu Gln Asp Ser Asp Leu Val Met Phe Leu Leu Arg Arg Glu Tyr
 420 425 430
 Tyr Asp Pro Asn Asp Lys Pro Gly Thr Ala Glu Leu Ile Ile Ala Lys
 435 440 445
 Asn Arg His Gly Ser Ile Gly Ser Val Pro Leu Val Phe Glu Lys Glu
 450 455 460
 Leu Ala Arg Phe Arg Asn Tyr Ser Ala Phe Glu Cys Ile Ser
 465 470 475

<210> 619

<211> 612

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0617

<400> 619

Leu Met Trp Thr His Pro Ile Ala Tyr Asp Val Ile Val Val Gly Ala
1 5 10 15
Gly His Ala Gly Cys Glu Ala Ala Tyr Cys Ser Ala Lys Met Gly Val
20 25 30
Ser Val Leu Met Leu Thr Ser Asn Leu Asp Thr Ile Ala Lys Leu Ser
35 40 45
Cys Asn Pro Ala Val Gly Gly Ile Gly Lys Gly His Ile Val Arg Glu
50 55 60
Ile Asp Ala Leu Gly Gly Ile Met Ala Glu Val Thr Asp Gln Ser Gly
65 70 75 80
Ile Gln Phe Arg Ile Leu Asn Gln Thr Lys Gly Pro Ala Val Arg Ala
85 90 95
Pro Arg Ala Gln Val Asp Lys Gln Leu Tyr His Ile His Met Lys Arg
100 105 110
Leu Leu Glu Asn Thr Pro Gly Leu His Ile Met Gln Ala Thr Val Glu
115 120 125
Ser Leu Leu Asp Lys Glu Gly Val Ile Ser Gly Val Thr Thr Lys Glu
130 135 140
Gly Trp Met Phe Ser Gly Lys Thr Val Val Leu Ser Ser Gly Thr Phe
145 150 155 160
Met Arg Gly Leu Ile His Ile Gly Asp Arg Asn Phe Ser Gly Gly Arg
165 170 175
Leu Gly Asp Pro Ser Ser Gln Gly Leu Ser Glu Asp Leu Lys Lys Arg
180 185 190
Gly Phe Pro Ile Ser Arg Leu Lys Thr Gly Thr Pro Pro Arg Leu Leu
195 200 205
Ala Ser Ser Ile Asn Phe Ser Cys Met Glu Glu Gln Pro Gly Asp Leu
210 215 220
Gly Val Gly Phe Val His Arg Thr Glu Pro Phe Gln Pro Pro Leu Pro
225 230 235 240
Gln Leu Ser Cys Phe Ile Thr His Thr Met Glu Lys Thr Lys Ala Ile
245 250 255
Ile Ser Ala Asn Leu His Arg Ser Ala Leu Tyr Gly Gly Cys Ile Glu
260 265 270
Gly Val Gly Pro Arg Tyr Cys Pro Ser Ile Glu Asp Lys Ile Val Lys
275 280 285
Phe Ser Asp Lys Glu Arg His His Val Phe Leu Glu Pro Glu Gly Leu
290 295 300
His Thr Gln Glu Ile Tyr Ala Asn Gly Leu Ser Thr Ser Met Pro Phe
305 310 315 320
Asp Val Gln Tyr Asp Met Ile Arg Ser Val Leu Gly Leu Glu Asn Ala
325 330 335
Ile Ile Thr Arg Pro Ala Tyr Ala Ile Glu Tyr Asp Tyr Ile His Gly
340 345 350
Asn Val Ile His Pro Thr Leu Glu Ser Lys Leu Ile Glu Gly Leu Phe
355 360 365
Leu Cys Gly Gln Ile Asn Gly Thr Thr Gly Tyr Glu Glu Ala Ala Ala
370 375 380
Gln Gly Leu Ile Ala Gly Ile Asn Ala Val Asn Lys Val Phe Asn Arg
385 390 395 400
Pro Pro Phe Ile Pro Ser Arg Gln Glu Ser Tyr Ile Gly Val Met Leu
405 410 415
Asp Asp Leu Thr Thr Gln Ile Leu Asp Glu Pro Tyr Arg Met Phe Thr
420 425 430
Gly Arg Ala Glu His Arg Leu Leu Leu Arg Gln Asp Asn Ala Cys Ala
435 440 445

Arg Leu Ser His Tyr Gly Tyr Glu Leu Gly Leu Leu Ser Glu Glu Arg
 450 455 460
 Tyr Glu Leu Val Lys Lys Gln Asn Gln Leu Leu Glu Glu Lys Val
 465 470 475 480
 Arg Leu Gln Lys Thr Phe Arg Gln Tyr Gly Gln Ser Val Val Ser Leu
 485 490 495
 Ala Lys Ala Leu Ser Arg Pro Glu Val Ser Tyr Asp Met Leu Arg Glu
 500 505 510
 Ala Phe Pro Asn Asp Ile Arg Asp Leu Gly Ala Val Leu Asn Ala Ser
 515 520 525
 Leu Glu Met Glu Ile Lys Tyr Ser Gly Tyr Ile Asp Arg Gln Lys Ile
 530 535 540
 Leu Ile Gln Ser Leu Glu Lys Ala Glu Ser Leu Leu Ile Pro Glu Asp
 545 550 555 560
 Leu Asp Tyr Lys Gln Ile Thr Ala Leu Ser Leu Glu Ala Gln Glu Lys
 565 570 575
 Leu Ala Lys Phe Thr Pro Arg Thr Leu Gly Ser Ala Ser Arg Ile Ser
 580 585 590
 Gly Ile Ala Ser Ala Asp Ile Gln Val Leu Met Ile Ala Leu Lys Lys
 595 600 605
 His Ala His His
 610

<210> 620
 <211> 237
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0618

<400> 620
 Lys Asn Met Pro Thr Thr Asn Cys Ile Phe Leu Asp Leu Arg Gly His
 1 5 10 15
 Ser Ile Leu His Gln Leu Gln Ile Glu Glu Ala Leu Leu Arg Val Ala
 20 25 30
 Asn Gln Asn Phe Cys Ile Ile Asn Ser Gly Ala Lys Asp Ser Ile Val
 35 40 45
 Leu Gly Ile Ser Arg Asn Leu Asn Gln Asp Val His Ile Ser Arg Ala
 50 55 60
 Gln Ala Asp His Ile Pro Ile Ile Arg Arg Tyr Ser Gly Gly Gly Thr
 65 70 75 80
 Val Phe Ile Asp Ser Asn Thr Leu Met Val Ser Trp Ile Met Asn Ser
 85 90 95
 Ser Glu Ala Ser Ala Gln Pro Gln Glu Leu Leu Ala Trp Thr Tyr Gly
 100 105 110
 Ile Tyr Ser Pro Leu Leu Pro Asn Thr Phe Ser Ile Arg Glu Asn Asp
 115 120 125
 Tyr Val Leu Gly His Lys Lys Ile Gly Gly Asn Ala Gln Tyr Ile Gln
 130 135 140
 Arg His Arg Trp Val His His Thr Thr Phe Leu Trp Asp Ile Asp Leu
 145 150 155 160
 Asp Lys Leu Ser Tyr Tyr Leu Pro Ile Pro Gln Gln Gln Pro Thr Tyr
 165 170 175
 Arg Asn Gln Arg Ser His Glu Glu Phe Leu Thr Thr Leu Arg Pro Trp
 180 185 190
 Phe Pro Ser Arg Asp Asp Phe Leu Glu Arg Ile Lys Ala Ser Gly Ser
 195 200 205
 Leu Leu Phe Thr Trp Glu Glu Phe Leu Asp Asn Glu Leu Glu Glu Ile
 210 215 220

Leu Ala Gln Pro His Arg Lys Ala Thr Thr Val Leu Asn
 225 230 235

<210> 621
 <211> 150
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0619

<400> 621
 Arg Arg Tyr Val Tyr Thr Met Glu Gln Thr Leu Ser Ile Ile Lys Pro
 1 5 10 15
 Asp Ser Val Ser Lys Ala His Ile Gly Glu Ile Leu Ser Ile Phe Glu
 20 25 30
 Gln Ser Gly Leu Arg Ile Ala Ala Met Lys Met Met His Leu Ser Gln
 35 40 45
 Thr Glu Ala Glu Gly Phe Tyr Phe Val His Arg Glu Arg Pro Phe Phe
 50 55 60
 Gln Glu Leu Val Asp Phe Met Val Ser Gly Pro Val Val Val Leu Val
 65 70 75 80
 Leu Glu Gly Ala Asn Ala Val Ser Arg Asn Arg Glu Leu Met Gly Ala
 85 90 95
 Thr Asn Pro Ala Glu Ala Ala Ser Gly Thr Ile Arg Ala Lys Phe Gly
 100 105 110
 Glu Ser Ile Gly Val Asn Ala Val His Gly Ser Asp Thr Leu Glu Asn
 115 120 125
 Ala Ala Val Glu Ile Ala Tyr Phe Phe Ser Lys Ile Glu Val Val Asn
 130 135 140
 Ala Ser Lys Pro Leu Val
 145 150

<210> 622
 <211> 209
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0620

<400> 622
 Asp Lys Met Tyr Asp Tyr Ile Arg Gly Thr Leu Thr Tyr Val His Thr
 1 5 10 15
 Gly Ala Ile Val Ile Glu Cys Gln Gly Ile Gly Tyr His Ile Ala Ile
 20 25 30
 Thr Glu Arg Trp Ala Ile Glu Cys Ile Arg Ala Leu His Gln Asp Phe
 35 40 45
 Leu Val Phe Thr His Val Ile Phe Arg Glu Thr Glu His Leu Leu Tyr
 50 55 60
 Gly Phe His Ser Arg Glu Glu Arg Glu Cys Phe Arg Ile Leu Ile Ser
 65 70 75 80
 Phe Ser Gly Ile Gly Pro Lys Leu Ala Leu Ala Ile Leu Asn Ala Leu
 85 90 95
 Pro Leu Lys Val Leu Cys Ser Val Val Arg Ser Glu Asp Ile Arg Ala
 100 105 110
 Leu Ala Ser Val Ser Gly Ile Gly Lys Lys Thr Ala Glu Lys Leu Met
 115 120 125
 Val Glu Leu Lys Gln Lys Leu Pro Asp Leu Leu Pro Leu Asp Ser Arg
 130 135 140

Val Glu Thr Ser Gln Thr His Thr Thr Ser Ser Cys Leu Glu Glu Gly
 145 150 155 160
 Ile Gln Ala Leu Ala Ala Leu Gly Tyr Ser Lys Ile Ala Ala Glu Arg
 165 170 175
 Met Ile Ala Glu Ala Ile Lys Asp Leu Pro Glu Gly Ser Ser Leu Thr
 180 185 190
 Asp Ile Leu Pro Ile Ala Leu Lys Lys Asn Phe Ser Gly Val Asn Lys
 195 200 205
 Asp

<210> 623
 <211> 188
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0621

<400> 623
 Leu Ser Arg Leu Gly Ser Ser Phe Lys Asp Asn Lys Phe Lys Val Phe
 1 5 10 15
 Gln Glu Ser Ile Val Ser Glu Leu Ile Ile Gly Val Asp Pro Gly Thr
 20 25 30
 Ile Val Ala Gly Tyr Ala Ile Ile Ala Val Glu Gln Arg Tyr Gln Leu
 35 40 45
 Arg Pro Tyr Ser Tyr Gly Ala Ile Arg Leu Ser Ser Asp Met Pro Leu
 50 55 60
 Pro Met Arg Tyr Lys Thr Leu Phe Glu Gln Leu Ser Gly Val Leu Asp
 65 70 75 80
 Asp Thr Gln Pro Asn Ala Met Val Leu Glu Thr Gln Phe Val Asn Lys
 85 90 95
 Asn Pro Gln Ser Thr Met Lys Leu Ala Met Ala Arg Gly Ile Val Leu
 100 105 110
 Leu Ala Ala Ala Gln Arg Asp Ile Leu Ile Phe Glu Tyr Ala Pro Asn
 115 120 125
 Val Ala Lys Lys Ala Val Val Gly Lys Gly His Ala Ser Lys Arg Gln
 130 135 140
 Val Gln Val Met Val Ser Lys Ile Leu Asn Val Pro Glu Val Leu His
 145 150 155 160
 Pro Ser Asn Glu Asp Ile Ala Asp Ala Phe Ala Leu Ala Ile Cys His
 165 170 175
 Thr His Val Ala Arg Ser Pro Leu Cys Gly Val Arg
 180 185

<210> 624
 <211> 323
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0622

<400> 624
 Arg Tyr Ser Val Arg Leu Leu Ser Ile Leu Lys Leu His Leu Phe Ser
 1 5 10 15
 Leu Arg Ser Ser Ser Ser Leu Ser Pro His Tyr Tyr His Ser Cys Ser
 20 25 30
 Arg Ser Met Leu His Leu Leu Cys Arg Trp Lys Asp Ala Asp Ile Met
 35 40 45

Glu Trp Gln Gln Ile Cys Asn Ile Leu Ser Gly Val Cys Ser Arg Met
 50 55 60
 Ser Gly Lys Leu Val Ser Leu Gln Lys Glu Thr Gln Asp Ser Cys His
 65 70 75 80
 Gln Glu His Glu Arg Ile His Leu Gln Tyr Arg Glu Gln Leu Ser Ala
 85 90 95
 Leu Glu Glu Glu Tyr Arg Arg Arg Glu Glu Ala Lys Asn Gln Asp Leu
 100 105 110
 Glu Lys Leu Gln Gln Glu Asn Thr Trp Leu Gln Asn Arg Leu Ala Glu
 115 120 125
 Lys Leu Gln Gln Ile Arg His Gln Ser Asp Ile Ile Asp Glu Ile Lys
 130 135 140
 Lys Glu Leu Leu Gln Ser Val Gln Arg Thr Glu Ile Ser Glu Gly Arg
 145 150 155 160
 Arg Leu Cys Tyr Glu His Lys Ile Lys Gln Leu Glu Glu Gln Leu Gln
 165 170 175
 Arg Tyr Val Ser Gln His Gly Ala Pro Ser Ile Glu Ile Glu Glu Asp
 180 185 190
 Lys Ser Ser Ala Ala Tyr Ala Glu Ile Asn Arg Leu Lys Lys Ser Leu
 195 200 205
 Ile Asp Leu Gln Gln Glu Lys Asp Ile Tyr Ile Lys Thr Tyr His Ser
 210 215 220
 Glu Ile Ala Lys Leu Arg Glu Lys Leu Gln Arg Gln Glu Gly Ala Gln
 225 230 235 240
 Thr Ser Ser Glu Val Cys Ser Ile Glu Lys Leu Thr Glu Val Gln Thr
 245 250 255
 Asp Leu Ala Glu Lys Lys Lys Ala Ile Ala Leu Leu Gln Asp Ile Val
 260 265 270
 Glu Asp Gln Tyr Cys Gln Leu Arg Asp Leu His Lys Glu Lys Gly Met
 275 280 285
 Ala Met Pro Ser Asn Thr Lys Leu Asp His Leu Lys Gly Leu Leu Gly
 290 295 300
 Lys Glu Pro Glu Ser Glu Val Asp Val Val Phe Ser Glu Ser Lys Ser
 305 310 315 320
 Leu Gly Ser

<210> 625
 <211> 283
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0623

<400> 625
 Ile Lys Gly Tyr Asn Tyr Val Tyr Phe Thr Arg Asp Pro Val Ile Glu
 1 5 10 15
 Thr Val Ile Thr Ser Arg Glu Gly Tyr Lys Leu Ser Val Arg Asn Thr
 20 25 30
 Lys His Phe Ser Gln Asp Pro Phe Met Val Glu Ala Ile Glu Val Ile
 35 40 45
 Ser Leu Gly Asn Ile Cys Phe Phe Arg Asn Cys Asp His Ser Lys Pro
 50 55 60
 Phe Leu Val Pro Ala Gly Asp Tyr Glu Val Met Glu Val Arg Asp Thr
 65 70 75 80
 Lys Ile Asn Leu Lys Ala Val Gly Leu Asp Arg Gly Val Lys Ile Ala
 85 90 95
 Gly Gly Arg Glu Ala Leu Ile Lys Leu Thr Lys Ser Thr Pro Leu Pro
 100 105 110

Val	Ile	Asp	Glu	Lys	Pro	Leu	Ala	Asp	Ser	Pro	Glu	Glu	Gly	Thr	Glu
	115						120					125			
Pro	Thr	Ser	Pro	Ser	Lys	Lys	Glu	Lys	Lys	Glu	Ala	Arg	Lys	Asp	Ser
	130					135					140				
Phe	Lys	Gly	Glu	Lys	Trp	Lys	Glu	Lys	Lys	Lys	Leu	Ser	Arg	Arg	Arg
	145				150					155					160
Asn	His	Lys	Glu	Ile	Ala	Glu	Val	Thr	Gly	Ala	Ser	Gln	Glu	Ile	Leu
			165						170					175	
Asp	Thr	Val	Lys	Glu	Glu	Leu	Trp	Glu	Glu	Ser	Gln	Glu	Asn	Glu	Ile
			180					185					190		
Val	Glu	Gln	Lys	Lys	Phe	Ser	Leu	Leu	Pro	Pro	Pro	Ala	Lys	Leu	Ile
		195					200					205			
Ser	Glu	Val	Ile	Ser	Gln	Thr	Val	Val	Asp	Pro	Val	Val	Thr	Ser	Ala
	210					215					220				
Asp	Leu	Asn	Glu	Ser	Leu	Gln	Ala	Leu	Val	Arg	Glu	Ser	Ser	Asp	Leu
	225				230					235					240
Ile	Asn	Ala	Leu	Leu	Ser	Ala	Asp	Asp	Ala	Ile	His	Phe	Pro	Glu	Thr
				245				250						255	
Glu	Glu	Glu	Pro	Thr	Ser	Ala	Ser	Phe	Glu	Glu	Ser	Ser	Ala	Met	Phe
			260					265					270		
Phe	Pro	Glu	Thr	Ser	Ser	Ala	Thr	Glu	Glu	Glu					
		275					280								

<210> 626

<211> 336

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0624

<400> 626

Ala	Met	Lys	Val	Val	Ile	Asn	Gly	Phe	Gly	Arg	Ile	Gly	Arg	Leu	Val
1				5					10					15	
Leu	Arg	Gln	Ile	Leu	Lys	Arg	Asn	Ser	Ser	Val	Glu	Val	Leu	Ala	Ile
		20					25						30		
Asn	Asp	Leu	Val	Pro	Gly	Asp	Ala	Leu	Thr	Tyr	Leu	Phe	Lys	Phe	Asp
	35					40						45			
Ser	Thr	His	Gly	Arg	Phe	Pro	Glu	Asp	Val	Arg	Cys	Glu	Ala	Asp	His
	50					55					60				
Leu	Ile	Val	Gly	Lys	Arg	Lys	Ile	Gln	Phe	Leu	Ser	Glu	Arg	Asn	Val
	65				70					75				80	
Gln	Asn	Leu	Pro	Trp	Lys	Asp	Leu	Gly	Val	Asp	Leu	Val	Ile	Glu	Cys
			85					90						95	
Thr	Gly	Leu	Phe	Thr	Lys	Lys	Glu	Asp	Ala	Glu	Lys	His	Ile	Gln	Ala
		100					105						110		
Gly	Ala	Lys	Arg	Val	Leu	Ile	Ser	Ala	Pro	Gly	Lys	Gly	Asp	Ile	Pro
	115						120					125			
Thr	Phe	Val	Met	Gly	Val	Asn	His	Lys	Thr	Phe	Asn	Pro	Glu	Lys	Asp
	130					135					140				
Phe	Val	Ile	Ser	Asn	Ala	Ser	Cys	Thr	Thr	Asn	Cys	Leu	Ala	Pro	Ile
	145				150					155				160	
Ala	Lys	Val	Leu	Leu	Asp	Asn	Phe	Gly	Ile	Thr	Glu	Gly	Leu	Met	Thr
			165					170						175	
Thr	Val	His	Ala	Ala	Thr	Ala	Thr	Gln	Leu	Val	Val	Asp	Gly	Pro	Ser
		180						185					190		
Lys	Lys	Asp	Trp	Arg	Gly	Gly	Arg	Gly	Cys	Leu	Gln	Asn	Ile	Ile	Pro
		195					200					205			
Ala	Ser	Thr	Gly	Ala	Ala	Lys	Ala	Val	Thr	Leu	Cys	Leu	Pro	Glu	Leu
	210					215					220				

Lys Gly Lys Leu Thr Gly Met Ala Phe Arg Val Pro Ile Glu Asp Val
 225 230 235 240
 Ser Val Val Asp Leu Thr Val Arg Leu Asp Lys Ser Thr Thr Tyr Asp
 245 250 255
 Asp Ile Cys Lys Ala Met Lys Gln Ala Ser Glu Thr Asp Leu Lys Gly
 260 265 270
 Ile Leu Asp Tyr Thr Asp Glu Gln Val Val Ser Ser Asp Phe Ile Gly
 275 280 285
 Ser Glu Tyr Ser Ser Ile Phe Asp Ala Leu Ala Gly Ile Ala Leu Asn
 290 295 300
 Asp Arg Phe Phe Lys Leu Val Ala Trp Tyr Asp Asn Glu Thr Gly Tyr
 305 310 315 320
 Ala Thr Arg Ile Val Asp Leu Leu Glu Tyr Val Glu Lys Asn Ser Lys
 325 330 335

<210> 627
 <211> 143
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0625

<400> 627
 Val Met Gln His Ala Arg Lys Lys Phe Arg Val Gly Arg Thr Ser Ser
 1 5 10 15
 His Asn Arg Cys Met Leu Ala Asn Met Leu Lys Ser Leu Ile His Tyr
 20 25 30
 Glu Arg Ile Glu Thr Thr Leu Pro Lys Ala Lys Glu Leu Arg Arg His
 35 40 45
 Ala Asp Lys Met Ile Thr Leu Ala Lys Lys Asn Ser Leu Ala Ala Arg
 50 55 60
 Arg Ile Ala Ile Gly Arg Leu Met Val Arg Tyr Asn Lys Leu Thr Ser
 65 70 75 80
 Lys Glu Ala Arg Gln Ala Lys Gly Gly Asp Thr Ser Val Tyr Asn Val
 85 90 95
 Asp Arg Leu Val Val Asn Lys Leu Phe Asp Glu Leu Gly Asn Arg Phe
 100 105 110
 Val Glu Arg Lys Gly Gly Tyr Thr Arg Ile Leu Lys Leu Gln Asn Arg
 115 120 125
 Ile Gly Asp Asn Ala Gln Lys Cys Ile Ile Glu Phe Leu Ala Ser
 130 135 140

<210> 628
 <211> 392
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0626

<400> 628
 Trp Leu Pro Ala Lys Lys Lys Ala Gln Ser Val Val Leu Gly Lys Glu
 1 5 10 15
 Lys Gly Met Ser Asp Asn Ala His Asn Leu Leu Tyr Asp Lys Phe Glu
 20 25 30
 Leu Pro Glu Ala Val Lys Met Leu Pro Val Glu Gly Leu Pro Ile Asp
 35 40 45
 Lys His Ala Arg Phe Ile Ala Glu Pro Leu Glu Arg Gly Met Gly His
 50 55 60

Thr Leu Gly Asn Ala Leu Arg Arg Ala Leu Leu Ile Gly Leu Glu Ala
 65 70 75 80
 Pro Ala Ile Ile Ser Phe Ala Met Thr Gly Val Leu His Glu Tyr Met
 85 90 95
 Ala Ile Glu Gly Val Ile Glu Asp Val Thr Asn Ile Ile Leu Asn Leu
 100 105 110
 Lys Gly Ala Leu Leu Lys Lys Tyr Pro Met Gln Asp Ser Ser Leu Gly
 115 120 125
 Arg Thr Thr Gln Val Leu Lys Ala Ser Ile Ser Ile Asp Ala Ser Asp
 130 135 140
 Leu Ala Ala Ala Asn Gly Gln Lys Glu Val Thr Leu Gln Asp Leu Leu
 145 150 155 160
 Gln Glu Gly Asp Phe Glu Ala Val Asn Pro Asp Gln Val Ile Phe Thr
 165 170 175
 Val Thr Gln Pro Ile Gln Leu Glu Val Val Leu Arg Ile Ala Phe Gly
 180 185 190
 Arg Gly Tyr Thr Pro Ser Glu Arg Ile Val Leu Glu Asp Lys Gly Val
 195 200 205
 Tyr Glu Ile Val Leu Asp Ala Ala Phe Ser Pro Val Thr Leu Val Asn
 210 215 220
 Tyr Phe Val Glu Asp Thr Arg Val Gly Gln Asp Thr Asp Phe Asp Arg
 225 230 235 240
 Leu Val Leu Ile Val Glu Thr Asp Gly Arg Val Thr Pro Lys Glu Ala
 245 250 255
 Leu Ala Phe Ser Thr Gln Ile Leu Thr Lys His Phe Ser Ile Phe Glu
 260 265 270
 Asn Met Asp Glu Lys Lys Ile Val Phe Glu Glu Ala Ile Ser Ile Glu
 275 280 285
 Lys Glu Asn Lys Asp Asp Ile Leu His Lys Leu Ile Leu Gly Ile Asn
 290 295 300
 Glu Ile Glu Leu Ser Val Arg Ser Thr Asn Cys Leu Ser Asn Ala Asn
 305 310 315 320
 Ile Glu Thr Ile Gly Glu Leu Val Ile Met Pro Glu Pro Arg Leu Leu
 325 330 335
 Gln Phe Arg Asn Phe Gly Lys Lys Ser Leu Cys Glu Ile Lys Asn Lys
 340 345 350
 Leu Lys Glu Met Lys Leu Glu Leu Gly Met Asp Leu Thr Gln Phe Gly
 355 360 365
 Val Gly Leu Asp Asn Val Lys Glu Lys Met Lys Trp Tyr Ala Glu Lys
 370 375 380
 Ile Arg Ala Lys Asn Thr Lys Gly
 385 390

<210> 629
 <211> 140
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0627

<400> 629
 Phe Leu Ile Arg Ser Arg Val Leu Val Lys Asn Gln Ala Gln Ala Lys
 1 5 10 15
 Lys Ser Val Lys Arg Lys Gln Leu Lys Asn Ile Pro Ser Gly Val Val
 20 25 30
 His Val Lys Ala Thr Phe Asn Asn Thr Ile Val Ser Ile Thr Asp Pro
 35 40 45
 Ala Gly Asn Val Ile Ser Trp Ala Ser Ala Gly Lys Val Gly Tyr Ser
 50 55 60

Gly Ser Arg Lys Ser Ser Ala Phe Ala Ala Thr Val Ala Ala Gln Asp
65 70 75 80
Ala Ala Lys Thr Ala Met Asn Ser Gly Leu Lys Glu Val Glu Val Cys
85 90 95
Leu Lys Gly Thr Gly Ala Gly Arg Glu Ser Ala Val Arg Ala Leu Ile
100 105 110
Ser Ala Gly Leu Val Val Ser Val Ile Arg Asp Glu Thr Pro Val Pro
115 120 125
His Asn Gly Cys Arg Pro Arg Lys Arg Arg Arg Val
130 135 140

<210> 630
<211> 133
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0628

<400> 630
Asp Ala Tyr Thr Ile Leu Arg Glu Ala Gln Arg Met Pro Arg Ile Ile
1 5 10 15
Gly Ile Asp Ile Pro Ala Lys Lys Lys Leu Lys Ile Ser Leu Thr Tyr
20 25 30
Ile Tyr Gly Ile Gly Ser Ala Arg Ser Asp Glu Ile Ile Lys Lys Leu
35 40 45
Lys Leu Asp Pro Glu Ala Arg Ala Ser Glu Leu Thr Glu Glu Glu Val
50 55 60
Gly Arg Leu Asn Ser Leu Leu Gln Ser Glu Tyr Thr Val Glu Gly Asp
65 70 75 80
Leu Arg Arg Arg Val Gln Ser Asp Ile Lys Arg Leu Ile Ala Ile His
85 90 95
Ser Tyr Arg Gly Gln Arg His Arg Leu Ser Leu Pro Val Arg Gly Gln
100 105 110
Arg Thr Lys Thr Asn Ser Arg Thr Arg Lys Gly Lys Arg Lys Thr Val
115 120 125
Ala Gly Lys Lys Lys
130

<210> 631
<211> 465
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0629

<400> 631
Lys Ile Arg Leu Phe Arg Pro Tyr Met Thr Thr Leu Arg Gln Phe Phe
1 5 10 15
Leu Ile Thr Glu Leu Arg Gln Lys Leu Phe Tyr Thr Phe Ala Leu Leu
20 25 30
Thr Ala Cys Arg Val Gly Val Phe Ile Pro Val Pro Gly Ile Asn Gly
35 40 45
Glu Leu Ala Val Ala Tyr Phe Lys Gln Leu Leu Gly Ser Gly Gln Asn
50 55 60
Leu Phe Gln Leu Ala Asp Ile Phe Ser Gly Gly Ala Phe Ala Gln Met
65 70 75 80
Thr Val Ile Ala Leu Gly Val Val Pro Tyr Ile Ser Ala Ser Ile Ile
85 90 95

Val	Gln	Leu	Phe	Leu	Val	Phe	Met	Pro	Ala	Leu	Gln	Arg	Glu	Met	Arg		
			100					105					110				
Glu	Ser	Ser	Asp	Gln	Gly	Lys	Arg	Arg	Ile	Gly	Arg	Leu	Thr	Arg	Leu		
		115					120					125					
Phe	Thr	Val	Ala	Leu	Ala	Val	Ile	Gln	Ser	Leu	Leu	Phe	Ala	Lys	Phe		
	130					135					140						
Ala	Leu	Arg	Met	Asn	Leu	Thr	Ile	Pro	Gly	Ile	Val	Leu	Pro	Thr	Leu		
145					150					155					160		
Leu	Ser	Ser	Lys	Leu	Phe	Gly	Val	Pro	Trp	Ile	Phe	Tyr	Ile	Thr	Thr		
			165					170						175			
Val	Val	Val	Met	Thr	Thr	Gly	Thr	Leu	Leu	Leu	Met	Trp	Ile	Gly	Glu		
		180					185						190				
Gln	Ile	Ser	Asp	Lys	Gly	Ile	Gly	Asn	Gly	Ile	Ser	Leu	Ile	Ile	Ala		
	195					200						205					
Leu	Gly	Ile	Leu	Ser	Ser	Phe	Pro	Ser	Val	Leu	Gly	Ser	Ile	Val	Asn		
	210				215						220						
Lys	Leu	Asn	Leu	Gly	Ser	Gln	Asp	Ser	Ser	Asp	Leu	Gly	Leu	Ile	Ser		
225					230					235					240		
Ile	Leu	Ile	Leu	Ala	Leu	Val	Phe	Val	Phe	Val	Leu	Ile	Thr	Thr	Ile		
			245					250						255			
Leu	Ile	Ile	Glu	Gly	Val	Arg	Lys	Ile	Pro	Val	Gln	Tyr	Ala	Arg	Arg		
		260					265						270				
Val	Ile	Gly	Arg	Arg	Glu	Val	Pro	Gly	Gly	Gly	Ser	Tyr	Leu	Pro	Leu		
	275					280					285						
Lys	Val	Asn	Tyr	Ala	Gly	Val	Ile	Pro	Val	Ile	Phe	Ala	Ser	Ser	Leu		
	290				295					300							
Leu	Met	Phe	Pro	Ala	Thr	Ile	Gly	Gln	Phe	Ile	Ala	Ser	Glu	Ser	Ser		
305					310					315					320		
Trp	Met	Lys	Arg	Ile	Ala	Ala	Leu	Leu	Ala	Pro	Gly	Ser	Leu	Val	Tyr		
			325						330					335			
Ser	Ile	Cys	Tyr	Val	Leu	Leu	Ile	Ile	Phe	Phe	Thr	Tyr	Phe	Trp	Thr		
		340					345						350				
Ala	Thr	Gln	Phe	His	Pro	Glu	Gln	Ile	Ala	Ser	Glu	Met	Lys	Lys	Asn		
	355					360						365					
Asn	Ala	Phe	Ile	Pro	Gly	Ile	Arg	Gln	Gly	Lys	Pro	Thr	Gln	His	Tyr		
	370				375						380						
Leu	Glu	Tyr	Thr	Met	Asn	Arg	Val	Thr	Leu	Leu	Gly	Ala	Leu	Phe	Leu		
385					390					395					400		
Ala	Ala	Ile	Ala	Ile	Leu	Pro	Ser	Leu	Leu	Gly	Cys	Leu	Leu	Arg	Val		
			405					410					415				
Asp	Ser	Asn	Val	Ser	Tyr	Phe	Leu	Gly	Gly	Thr	Ala	Met	Leu	Ile	Val		
		420						425					430				
Val	Gly	Val	Val	Leu	Asp	Thr	Met	Lys	Gln	Val	Asp	Ala	Phe	Leu	Leu		
	435					440					445						
Met	Arg	Arg	Tyr	Asp	Ser	Val	Leu	Lys	Thr	Asp	Arg	Thr	Lys	Gly	Arg		
	450					455					460						
His																	
465																	

<210> 632
 <211> 144
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0630

<400> 632
 Met Ile Lys Leu Glu Ser Leu Phe Asp Ile Ser Glu Arg Lys Arg Arg
 1 5 10 15

Lys Lys Leu Leu Gly Arg Gly Pro Ser Ser Gly His Gly Lys Thr Ser
 20 25 30
 Gly Arg Gly His Lys Gly Asp Gly Ser Arg Ser Gly Tyr Lys Arg Arg
 35 40 45
 Phe Gly Tyr Glu Gly Gly Gly Val Pro Leu Tyr Arg Arg Val Pro Thr
 50 55 60
 Arg Gly Phe Ser His Lys Arg Phe Asp Lys Cys Val Glu Glu Ile Thr
 65 70 75 80
 Thr Gly Arg Leu Ala Glu Leu Phe Gln Glu Gly Glu Ala Ile Thr Leu
 85 90 95
 Asp Ala Leu Lys Ala Lys Lys Ala Ile Ala Arg Gln Ala Val Arg Val
 100 105 110
 Lys Val Ile Leu Lys Gly Asp Leu Glu Lys Thr Phe Val Trp Gln Asp
 115 120 125
 Thr Ala Val Val Leu Ser Gln Gly Val Gln Asn Leu Leu Gly Ile Thr
 130 135 140

<210> 633
 <211> 167
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0631

<400> 633
 Glu Glu Met Ser Leu Ser Lys Asn Ser His Lys Glu Asp Gln Leu Glu
 1 5 10 15
 Glu Lys Val Leu Val Val Asn Arg Cys Ser Lys Val Val Lys Gly Gly
 20 25 30
 Arg Lys Phe Ser Phe Ser Ala Leu Ile Leu Val Gly Asp Gly Lys Gly
 35 40 45
 Arg Leu Gly Tyr Gly Phe Ala Lys Ala Asn Glu Leu Thr Asp Ala Ile
 50 55 60
 Arg Lys Gly Gly Glu Ala Ala Lys Lys Asn Leu Met Lys Ile Glu Ala
 65 70 75 80
 Leu Glu Asp Gly Ser Ile Pro His Glu Val Leu Val His His Asp Gly
 85 90 95
 Ala Gln Leu Leu Leu Lys Pro Ala Lys Pro Gly Thr Gly Ile Val Ala
 100 105 110
 Gly Ser Arg Ile Arg Leu Ile Leu Glu Met Ala Gly Ile Lys Asp Ile
 115 120 125
 Val Ala Lys Ser Phe Gly Ser Asn Asn Pro Met Asn Gln Val Lys Ala
 130 135 140
 Ala Phe Lys Ala Leu Thr Gly Leu Ser Pro Arg Lys Asp Leu Leu Arg
 145 150 155 160
 Arg Gly Ala Ala Ile Asn Asp
 165

<210> 634
 <211> 176
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0632

<400> 634
 Lys Gly Leu Ile Ser Ser Trp Leu Val Asn Leu Leu Gln Val Phe Ala
 1 5 10 15

Pro Asn Val Leu Leu Asn Leu Ile Lys Val Arg Glu Phe Val Met Lys
 20 25 30
 Met Asn Met Ser Val Val Lys Leu Val Lys Leu Arg Lys Gln Ala Lys
 35 40 45
 Asn Arg Ser Arg Val Met Glu Ser Ser Leu Cys Lys Lys Ser Leu Met
 50 55 60
 Lys Arg Arg Arg Ala Leu Arg Val Arg Lys Val Leu Lys Gly Ser Pro
 65 70 75 80
 Thr Lys Pro Arg Leu Ser Val Val Lys Thr Asn Lys His Ile Tyr Val
 85 90 95
 Gln Leu Ile Asp Asp Ser Ile Gly Lys Thr Leu Ala Ser Val Ser Thr
 100 105 110
 Leu Ser Lys Leu Asn Lys Ser Gln Gly Leu Thr Lys Lys Asn Gln Glu
 115 120 125
 Val Ala Lys Val Leu Gly Thr Gln Ile Ala Glu Leu Gly Lys Asn Leu
 130 135 140
 Gln Leu Asp Arg Val Val Phe Asp Arg Gly Pro Phe Lys Tyr His Gly
 145 150 155 160
 Ile Val Ser Met Val Ala Asp Gly Ala Arg Glu Gly Gly Leu Gln Phe
 165 170 175

<210> 635
 <211> 184
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0633

<400> 635
 Ser Met Ser Arg Lys Ala Arg Glu Pro Ile Leu Leu Pro Gln Gly Val
 1 5 10 15
 Glu Val Ser Ile Gln Asp Asp Lys Ile Ile Val Lys Gly Pro Lys Gly
 20 25 30
 Ser Leu Thr Gln Lys Ser Val Lys Glu Val Glu Ile Thr Leu Lys Asp
 35 40 45
 Asn Ser Ile Phe Val His Ala Ala Pro His Val Val Asp Arg Pro Ser
 50 55 60
 Cys Met Gln Gly Leu Tyr Trp Ala Leu Ile Ser Asn Met Val Gln Gly
 65 70 75 80
 Val His Leu Gly Phe Glu Lys Arg Leu Glu Met Ile Gly Val Gly Phe
 85 90 95
 Arg Ala Ser Val Gln Gly Ala Phe Leu Asp Leu Ser Ile Gly Val Ser
 100 105 110
 His Pro Thr Lys Ile Pro Ile Pro Ser Thr Leu Gln Val Ser Val Glu
 115 120 125
 Lys Asn Thr Leu Ile Ser Val Lys Gly Leu Asp Lys Gln Leu Val Gly
 130 135 140
 Glu Phe Ala Ala Ser Ile Arg Ala Lys Arg Pro Pro Glu Pro Tyr Lys
 145 150 155 160
 Gly Lys Gly Ile Arg Tyr Glu Asn Glu Tyr Val Arg Arg Lys Ala Gly
 165 170 175
 Lys Ala Ala Lys Thr Gly Lys Lys
 180

<210> 636
 <211> 143
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0634

<400> 636

Glu	Ser	Ser	Ile	Lys	Arg	Lys	Arg	Ile	Tyr	Met	Gly	Met	Thr	Ser	Asp
1				5					10					15	
Ser	Ile	Ala	Asp	Leu	Leu	Thr	Arg	Ile	Arg	Asn	Ala	Leu	Met	Ala	Glu
			20					25					30		
His	Leu	Tyr	Val	Asp	Val	Glu	His	Ser	Lys	Met	Arg	Glu	Ala	Ile	Val
		35					40					45			
Lys	Ile	Leu	Lys	His	Lys	Gly	Phe	Val	Ala	His	Tyr	Leu	Val	Lys	Glu
	50					55					60				
Glu	Asn	Arg	Lys	Arg	Ala	Met	Arg	Val	Phe	Leu	Gln	Tyr	Ser	Asp	Asp
65					70					75				80	
Arg	Lys	Pro	Val	Ile	His	Gln	Leu	Lys	Arg	Val	Ser	Lys	Pro	Ser	Arg
				85					90					95	
Arg	Val	Tyr	Val	Ser	Ala	Ala	Lys	Ile	Pro	Tyr	Val	Phe	Gly	Asn	Met
			100					105					110		
Gly	Ile	Ser	Val	Leu	Ser	Thr	Ser	Gln	Gly	Val	Met	Glu	Gly	Ser	Leu
		115					120					125			
Ala	Arg	Ser	Lys	Asn	Ile	Gly	Gly	Glu	Leu	Leu	Cys	Leu	Val	Trp	
	130					135					140				

<210> 637

<211> 186

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0635

<400> 637

Gly	Glu	Arg	Lys	Ala	Asn	Met	Ser	Arg	Leu	Lys	Lys	Phe	Tyr	Thr	Glu
1				5					10					15	
Glu	Ile	Arg	Lys	Ser	Leu	Phe	Glu	Lys	Phe	Gly	Tyr	Ala	Asn	Lys	Met
			20					25					30		
Gln	Ile	Pro	Val	Leu	Lys	Lys	Ile	Val	Leu	Ser	Met	Gly	Leu	Ala	Glu
			35				40					45			
Ala	Ala	Lys	Asp	Lys	Asn	Leu	Phe	Gln	Ala	His	Leu	Glu	Glu	Leu	Thr
	50					55					60				
Met	Ile	Ser	Gly	Gln	Lys	Pro	Leu	Val	Thr	Lys	Ala	Arg	Asn	Ser	Ile
65					70					75				80	
Ala	Gly	Phe	Lys	Leu	Arg	Glu	Gly	Gln	Gly	Ile	Gly	Ala	Lys	Val	Thr
				85					90					95	
Leu	Arg	Gly	Ile	Arg	Met	Tyr	Asp	Phe	Met	Asp	Arg	Phe	Cys	Asn	Ile
			100					105					110		
Val	Ser	Pro	Arg	Ile	Arg	Asp	Phe	Arg	Gly	Phe	Ser	Asn	Lys	Gly	Asp
		115				120						125			
Gly	Arg	Gly	Cys	Tyr	Ser	Val	Gly	Leu	Asp	Asp	Gln	Gln	Ile	Phe	Pro
	130					135					140				
Glu	Ile	Asn	Leu	Asp	Arg	Val	Lys	Arg	Thr	Gln	Gly	Leu	Asn	Ile	Thr
145					150					155				160	
Trp	Val	Thr	Thr	Ala	Gln	Thr	Asp	Asp	Glu	Cys	Thr	Thr	Leu	Leu	Glu
				165					170					175	
Leu	Met	Gly	Leu	Arg	Phe	Lys	Lys	Ala	Gln						
			180					185							

<210> 638

<211> 117

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0636

<400> 638

Phe Lys Glu Lys Glu Val Met Lys Lys Gln Asn Ile Arg Val Gly Asp
1 5 10 15
Lys Val Phe Ile Leu Ala Gly Asn Asp Lys Gly Lys Glu Gly Lys Val
20 25 30
Leu Ser Leu Thr Glu Asp Lys Val Val Glu Gly Val Asn Val Arg
35 40 45
Ile Lys Asn Ile Lys Arg Ser Gln Gln Asn Pro Lys Gly Lys Arg Ile
50 55 60
Ser Ile Glu Ala Pro Ile His Ile Ser Asn Val Arg Leu Thr Ile Ala
65 70 75 80
Gly Glu Pro Ala Lys Leu Ser Val Lys Val Thr Glu Gln Gly Arg Glu
85 90 95
Leu Trp Gln Arg Arg Pro Asp Gly Thr Ser Gln Leu Tyr Arg Leu Val
100 105 110
Arg Gly Lys Lys Gly
115

<210> 639

<211> 125

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0637

<400> 639

Ile Glu Ile Met Ile Gln Gln Glu Ser Gln Leu Lys Val Ala Asp Asn
1 5 10 15
Thr Gly Ala Lys Lys Val Lys Cys Phe Lys Val Leu Gly Gly Ser Arg
20 25 30
Arg Arg Tyr Ala Thr Val Gly Asp Val Ile Val Cys Ser Val Arg Asp
35 40 45
Val Glu Pro Asn Ser Ser Ile Lys Lys Gly Asp Val Ile Lys Ala Val
50 55 60
Ile Val Arg Thr Arg Arg His Ile Thr Arg Lys Asp Gly Ser Thr Leu
65 70 75 80
Lys Phe Asp Thr Asn Ser Cys Val Ile Ile Asp Asp Lys Gly Asn Pro
85 90 95
Lys Gly Thr Arg Ile Phe Gly Pro Val Ala Arg Glu Ile Arg Asp Arg
100 105 110
Gly Phe Ile Lys Ile Ser Ser Leu Ala Pro Glu Val Ile
115 120 125

<210> 640

<211> 94

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0638

<400> 640

Asn Lys Lys Glu Lys Val Lys Ser Met Ala Ser Glu Pro Arg Gly Ser
1 5 10 15
Arg Lys Val Lys Ile Gly Val Val Val Ser Ala Lys Met Glu Lys Thr
20 25 30

Val Val Val Arg Val Glu Arg Ile Phe Ser His Pro Gln Tyr Leu Lys
35 40 45
Val Val Arg Ser Ser Lys Lys Tyr Tyr Ala His Thr Glu Leu Lys Val
50 55 60
Ser Glu Gly Asp Lys Val Lys Ile Gln Glu Thr Arg Pro Leu Ser Lys
65 70 75 80
Leu Lys Arg Trp Arg Val Ile Glu His Val Gly Val Val Ser
85 90

<210> 641
<211> 79
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0639

<400> 641
Ala Ser Gly Lys Gly Ile Asn Met Ala Ala Lys Lys Asp Leu Leu Thr
1 5 10 15
Gln Leu Arg Gly Lys Ser Asp Asp Asp Leu Asp Ala Tyr Val His Glu
20 25 30
Asn Lys Lys Ala Leu Phe Ala Leu Arg Ala Glu Asn Leu Leu Gln Asn
35 40 45
Lys Val Val Lys Val His Met Phe Ser Thr His Lys Lys Asn Ile Ala
50 55 60
Arg Ala Leu Thr Val Lys Gln Glu Arg Lys Gly Lys Val His Gly
65 70 75

<210> 642
<211> 140
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0640

<400> 642
Ile Ile Met Leu Met Pro Lys Arg Thr Lys Phe Arg Lys Gln Gln Lys
1 5 10 15
Gly Gln Phe Ala Gly Leu Ser Lys Gly Ala Thr Phe Val Asp Phe Gly
20 25 30
Glu Tyr Ala Met Gln Thr Leu Glu Arg Gly Trp Val Thr Ser Arg Gln
35 40 45
Ile Glu Ala Cys Arg Val Ala Ile Asn Arg Tyr Leu Lys Arg Arg Gly
50 55 60
Lys Val Trp Ile Arg Ile Phe Pro Asp Lys Ser Val Thr Lys Lys Pro
65 70 75 80
Ala Glu Thr Arg Met Gly Lys Gly Lys Gly Ala Pro Asp His Trp Val
85 90 95
Ala Val Val Arg Pro Gly Arg Ile Leu Phe Glu Val Ala Asn Val Ser
100 105 110
Lys Glu Asp Ala Gln Asp Ala Leu Arg Arg Ala Ala Ala Lys Leu Gly
115 120 125
Ile Lys Thr Arg Phe Val Lys Arg Val Glu Arg Val
130 135 140

<210> 643
<211> 228
<212> PRT
<213> Chlamydia pneumoniae

<220>

<223> CPn0641

<400> 643

Lys Gly Arg Arg Ile Met Gly Gln Lys Gly Cys Pro Ile Gly Phe Arg
1 5 10 15
Thr Gly Val Thr Lys Arg Trp Arg Ser Leu Trp Tyr Gly Asn Lys Gln
20 25 30
Glu Phe Gly Lys Phe Leu Ile Glu Asp Val Arg Ile Arg Gln Phe Leu
35 40 45
Arg Lys Lys Pro Ser Cys Gln Gly Ala Ala Gly Phe Val Val Arg Arg
50 55 60
Met Ser Gly Lys Ile Glu Val Thr Ile Gln Thr Ala Arg Pro Gly Leu
65 70 75 80
Val Ile Gly Lys Lys Gly Ala Glu Val Asp Leu Leu Lys Glu Glu Leu
85 90 95
Arg Ala Leu Thr Gly Lys Glu Val Trp Leu Glu Ile Ala Glu Ile Lys
100 105 110
Arg Pro Glu Leu Asn Ala Lys Leu Val Ala Asp Asn Ile Ala Arg Gln
115 120 125
Ile Glu Arg Arg Val Ser Phe Arg Arg Ala Met Lys Lys Ala Met Gln
130 135 140
Ser Val Met Asp Ala Gly Ala Val Gly Val Lys Ile Gln Val Ser Gly
145 150 155 160
Arg Leu Ala Gly Ala Glu Ile Ala Arg Ser Glu Trp Tyr Lys Asn Gly
165 170 175
Arg Val Pro Leu His Thr Leu Arg Ala Asp Ile Asp Tyr Ala Thr Ala
180 185 190
Cys Ala Glu Thr Thr Tyr Gly Ile Ile Gly Ile Lys Val Trp Ile Asn
195 200 205
Leu Gly Glu Asn Ser Ser Ser Thr Thr Pro Asn Asn Pro Ala Ala Pro
210 215 220
Ser Ala Ala Ala
225

<210> 644

<211> 115

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0642

<400> 644

Arg Arg His Ser Met Phe Lys Ala Thr Ala Arg Tyr Ile Arg Val Gln
1 5 10 15
Pro Arg Lys Ala Arg Leu Ala Ala Gly Leu Met Arg Asn Leu Ser Val
20 25 30
Gln Glu Ala Glu Glu Gln Leu Gly Phe Ser Gln Leu Lys Ala Gly Arg
35 40 45
Cys Leu Lys Lys Val Leu Asn Ser Ala Val Ala Asn Ala Glu Leu His
50 55 60
Glu Asn Ile Lys Arg Glu Asn Leu Ser Val Thr Glu Val Arg Val Asp
65 70 75 80
Ala Gly Pro Val Tyr Lys Arg Ser Lys Ser Lys Ser Arg Gly Gly Arg
85 90 95
Ser Pro Ile Leu Lys Arg Thr Ser His Leu Thr Val Ile Val Gly Glu
100 105 110
Lys Glu Arg
115

<210> 645
 <211> 92
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0643

<400> 645
 Glu Ile Arg Ile Met Gly Arg Ser Leu Arg Lys Gly Pro Phe Val Asp
 1 5 10 15
 His His Leu Leu Lys Lys Val Arg Ala Met Asn Ile Glu Glu Lys Lys
 20 25 30
 Thr Pro Ile Lys Thr Trp Ser Arg Arg Ser Met Ile Thr Pro Glu Met
 35 40 45
 Ile Gly His Thr Phe Glu Val His Asn Gly Lys Lys Phe Leu Thr Val
 50 55 60
 Phe Val Ser Glu Thr Met Val Gly His Lys Leu Gly Glu Phe Ser Pro
 65 70 75 80
 Thr Arg Ile Phe Lys Ser His Pro Val Lys Lys Gly
 85 90

<210> 646
 <211> 291
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0644

<400> 646
 Phe Ile Arg Glu Ile Asn Ser Met Phe Lys Lys Phe Lys Pro Val Thr
 1 5 10 15
 Pro Gly Thr Arg Gln Leu Val Leu Pro Ala Phe Asp Glu Leu Thr Thr
 20 25 30
 Arg Gly Glu Leu Arg Gly Thr Lys Ser Lys Arg Ser Leu Arg Pro Asn
 35 40 45
 Lys Lys Leu Ser Phe Phe Lys Lys Ser Ser Gly Gly Arg Asp Asn Leu
 50 55 60
 Gly His Ile Ser Cys Arg His Arg Gly Gly Gly Ala Lys Gln Leu Tyr
 65 70 75 80
 Arg Val Val Asp Phe Lys Arg Asn Lys Asp Gly Ile Thr Ala Lys Val
 85 90 95
 Val Thr Val Glu Tyr Asp Pro Asn Arg Ser Ala Tyr Ile Ala Leu Leu
 100 105 110
 Ser Tyr Glu Asp Gly Glu Lys Arg Tyr Ile Leu Ala Pro Lys Gly Ile
 115 120 125
 Gln Arg Gly Asp Val Val Val Ser Gly Glu Gly Ser Pro Phe Lys Pro
 130 135 140
 Gly Cys Cys Met Thr Leu Lys Ser Ile Pro Leu Gly Leu Ser Val His
 145 150 155 160
 Asn Ile Glu Met Arg Pro Ser Ser Gly Gly Lys Leu Val Arg Ser Ala
 165 170 175
 Gly Leu Ala Ala Gln Val Ile Ala Lys Ser Pro Gly Tyr Val Thr Leu
 180 185 190
 Lys Met Pro Ser Gly Glu Phe Arg Met Leu Asn Glu Gly Cys Arg Ala
 195 200 205
 Thr Ile Gly Glu Val Ser Asn Ala Asp His Asn Leu Arg Val Asp Gly
 210 215 220
 Lys Ala Gly Arg Arg Arg Trp Met Gly Val Arg Pro Thr Val Arg Gly
 225 230 235 240

Thr Ala Met Asn Pro Val Asp His Pro His Gly Gly Gly Glu Gly Arg
245 250 255
His Asn Gly Tyr Ile Pro Arg Thr Pro Trp Gly Lys Val Thr Lys Gly
260 265 270
Leu Lys Thr Arg Asp Lys Asn Lys Ser Asn Lys Trp Ile Val Lys Asp
275 280 285
Arg Arg Lys
290

<210> 647
<211> 112
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0645

<400> 647
Asp Met Lys Asp Pro Tyr Asp Val Ile Lys Arg His Tyr Val Thr Glu
1 5 10 15
Lys Ala Lys Met Leu Glu His Leu Ser Ala Gly Thr Gly Glu Gly Lys
20 25 30
Lys Lys Gly Ser Phe Cys Lys Asp Pro Lys Phe Val Phe Ile Val Ser
35 40 45
His Asp Ala Thr Lys Pro Leu Ile Ala Gln Ala Leu Glu Ala Ile Tyr
50 55 60
Val Asp Lys Asn Val Lys Val Lys Ser Val Asn Thr Ile Asn Val Lys
65 70 75 80
Pro Gln Pro Ala Arg Met Phe Arg Gly Arg Arg Lys Gly Lys Thr Ser
85 90 95
Gly Phe Lys Lys Ala Ile Val Thr Phe Tyr Gln Gly His Ser Val Gly
100 105 110

<210> 648
<211> 229
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0646

<400> 648
Tyr Arg Glu Asp Leu Met Val Leu Leu Ser Lys Phe Asp Phe Ser Gly
1 5 10 15
Asn Lys Ile Gly Glu Val Glu Val Ala Asp Ser Leu Phe Ala Asp Glu
20 25 30
Gly Asp Gly Leu Gln Leu Ile Lys Asp Tyr Ile Val Ala Ile Arg Ala
35 40 45
Asn Lys Arg Gln Trp Ser Ala Cys Thr Arg Asn Arg Ser Glu Val Ser
50 55 60
His Ser Thr Lys Lys Pro Phe Lys Gln Lys Gly Thr Gly Asn Ala Arg
65 70 75 80
Gln Gly Cys Leu Ala Ser Pro Gln Phe Arg Gly Gly Gly Ile Val Phe
85 90 95
Gly Pro Lys Pro Lys Phe Asn Gln His Val Arg Ile Asn Arg Lys Glu
100 105 110
Arg Lys Ala Ala Ile Arg Leu Leu Leu Ala Gln Lys Ile Gln Thr Asn
115 120 125
Lys Leu Thr Val Val Asp Asp Thr Val Phe Val Asp Ala Leu Thr Ala
130 135 140

Pro Lys Thr Gln Ser Ala Leu Arg Phe Leu Lys Asp Cys Asn Val Glu
 145 150 155 160
 Cys Arg Ser Ile Leu Phe Ile Asp His Leu Asp His Val Glu Lys Asn
 165 170 175
 Glu Asn Leu Arg Leu Ser Leu Arg Asn Leu Thr Ala Val Lys Gly Phe
 180 185 190
 Val Tyr Gly Ile Asn Ile Asn Gly Tyr Asp Leu Ala Ser Ala His Asn
 195 200 205
 Ile Val Ile Ser Lys Lys Ala Leu Gln Glu Leu Val Glu Arg Leu Val
 210 215 220
 Ser Glu Thr Lys Asp
 225

<210> 649
 <211> 278
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0647

<400> 649
 Tyr Leu Glu Tyr Phe Ser Tyr Cys Lys Asn Leu Pro Pro Leu Ile Thr
 1 5 10 15
 Cys Pro Phe Ile Phe Leu Arg Glu Asn Phe Leu Phe Phe Leu Glu Asn
 20 25 30
 Ser Ile Ser Lys Ile Leu Ser Arg Phe Val Ser Leu Phe Leu Gln Glu
 35 40 45
 Glu Ser Lys Ser Leu Leu Leu Met Asp Lys Phe Met Arg Ser His Ile
 50 55 60
 Ser Val Met Gly Lys Lys Glu Gly Met Ile His Ile Phe Asp Lys Asp
 65 70 75 80
 Gly Ser Leu Val Ala Cys Ser Val Ile Arg Val Glu Pro Asn Val Val
 85 90 95
 Thr Gln Ile Lys Thr Lys Glu Ser Asp Gly Tyr Phe Ser Leu Gln Ile
 100 105 110
 Gly Ala Glu Glu Met Asn Ala Pro Ala His Thr Ile Thr Lys Arg Val
 115 120 125
 Ser Lys Pro Lys Leu Gly His Leu Arg Lys Ala Gly Gly Arg Val Phe
 130 135 140
 Arg Phe Leu Lys Glu Val Arg Gly Ser Glu Glu Ala Leu Asn Gly Val
 145 150 155 160
 Ser Leu Gly Asp Ala Phe Gly Leu Glu Val Phe Glu Asp Val Ser Ser
 165 170 175
 Val Asp Val Arg Gly Ile Ser Lys Gly Lys Gly Phe Gln Gly Val Met
 180 185 190
 Lys Lys Phe Gly Phe Arg Gly Gly Pro Gly Ser His Gly Ser Gly Phe
 195 200 205
 His Arg His Ala Gly Ser Ile Gly Met Arg Ser Thr Pro Gly Arg Cys
 210 215 220
 Phe Pro Gly Ser Lys Arg Pro Ser His Met Gly Ala Glu Asn Val Thr
 225 230 235 240
 Val Lys Asn Leu Glu Val Ile Lys Val Asp Leu Glu Lys Lys Val Leu
 245 250 255
 Leu Val Lys Gly Ala Ile Pro Gly Ala Arg Gly Ser Ile Val Ile Val
 260 265 270
 Lys His Ser Ser Arg Thr
 275

<210> 650
 <211> 344
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0648

<400> 650
 Phe Phe Phe Lys Lys Pro Cys Lys Glu Val Lys Met Ala Thr Asn Ala
 1 5 10 15
 Ile Arg Ser Ala Gly Ser Ala Ala Ser Lys Met Leu Leu Pro Val Ala
 20 25 30
 Lys Glu Pro Ala Ala Val Ser Ser Phe Ala Gln Lys Gly Ile Tyr Cys
 35 40 45
 Ile Gln Gln Phe Phe Thr Asn Pro Gly Asn Lys Leu Ala Lys Phe Val
 50 55 60
 Gly Ala Thr Lys Ser Leu Asp Lys Cys Phe Lys Leu Ser Lys Ala Val
 65 70 75 80
 Ser Asp Cys Val Val Gly Ser Leu Glu Glu Ala Gly Cys Thr Gly Asp
 85 90 95
 Ala Leu Thr Ser Ala Arg Asn Ala Gln Gly Met Leu Lys Thr Thr Arg
 100 105 110
 Glu Val Val Ala Leu Ala Asn Val Leu Asn Gly Ala Val Pro Ser Ile
 115 120 125
 Val Asn Ser Thr Gln Arg Cys Tyr Gln Tyr Thr Arg Gln Ala Phe Glu
 130 135 140
 Leu Gly Ser Lys Thr Lys Glu Arg Lys Thr Pro Gly Glu Tyr Ser Lys
 145 150 155 160
 Met Leu Leu Thr Arg Gly Asp Tyr Leu Leu Ala Ala Ser Arg Glu Ala
 165 170 175
 Cys Thr Ala Val Gly Ala Thr Thr Tyr Ser Ala Thr Phe Gly Val Leu
 180 185 190
 Arg Pro Leu Met Leu Ile Asn Lys Leu Thr Ala Lys Pro Phe Leu Asp
 195 200 205
 Lys Ala Thr Val Gly Asn Phe Gly Thr Ala Val Ala Gly Ile Met Thr
 210 215 220
 Ile Asn His Met Ala Gly Val Ala Gly Ala Val Gly Gly Ile Ala Leu
 225 230 235 240
 Glu Gln Lys Leu Phe Lys Arg Ala Lys Glu Ser Leu Tyr Asn Glu Arg
 245 250 255
 Cys Ala Leu Glu Asn Gln Gln Ser Gln Leu Ser Gly Asp Val Ile Leu
 260 265 270
 Ser Ala Glu Arg Ala Leu Arg Lys Glu His Val Ala Thr Leu Lys Arg
 275 280 285
 Asn Val Leu Thr Leu Leu Glu Lys Ala Leu Glu Leu Val Val Asp Gly
 290 295 300
 Val Lys Leu Ile Pro Leu Pro Ile Thr Val Ala Cys Ser Ala Ala Ile
 305 310 315 320
 Ser Gly Ala Leu Thr Ala Ala Ser Ala Gly Ile Gly Leu Tyr Ser Ile
 325 330 335
 Trp Gln Lys Thr Lys Ser Gly Lys
 340

<210> 651
 <211> 321
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0649

<400> 651

Leu	Asn	Leu	Lys	Val	Val	Tyr	Phe	Gly	Thr	Pro	Thr	Phe	Ala	Ala	Thr
1				5					10					15	
Val	Leu	Gln	Asp	Leu	Leu	His	His	Lys	Ile	Gln	Ile	Thr	Ala	Val	Val
			20					25					30		
Thr	Arg	Val	Asp	Lys	Pro	Gln	Lys	Arg	Ser	Ala	Gln	Leu	Ile	Pro	Ser
		35					40					45			
Pro	Val	Lys	Thr	Ile	Ala	Leu	Thr	His	Gly	Leu	Pro	Leu	Leu	Gln	Pro
	50				55						60				
Ser	Lys	Ala	Ser	Asp	Pro	Gln	Phe	Ile	Glu	Glu	Leu	Arg	Ala	Phe	Asn
65					70				75						80
Ala	Asp	Val	Phe	Ile	Val	Val	Ala	Tyr	Gly	Ala	Ile	Leu	Arg	Gln	Ile
				85					90					95	
Val	Leu	Asp	Ile	Pro	Arg	Tyr	Gly	Cys	Tyr	Asn	Leu	His	Ala	Gly	Leu
		100						105					110		
Leu	Pro	Ala	Tyr	Arg	Gly	Ala	Ala	Pro	Ile	Gln	Arg	Cys	Ile	Met	Glu
	115					120						125			
Gly	Ala	Thr	Glu	Ser	Gly	Asn	Thr	Val	Ile	Arg	Met	Asp	Ala	Gly	Met
	130					135					140				
Asp	Thr	Gly	Asp	Met	Ala	Asn	Ile	Thr	Arg	Val	Pro	Ile	Gly	Pro	Asp
145					150					155				160	
Met	Thr	Ser	Gly	Glu	Leu	Ala	Asp	Ala	Leu	Ala	Ser	Gln	Gly	Ala	Glu
				165					170					175	
Val	Leu	Ile	Lys	Thr	Leu	Gln	Gln	Ile	Glu	Ser	Gly	Gln	Leu	Gln	Leu
		180						185					190		
Val	Ser	Gln	Asp	Ala	Ala	Leu	Ala	Thr	Ile	Ala	Pro	Lys	Leu	Ser	Lys
		195					200					205			
Glu	Glu	Gly	Gln	Val	Pro	Trp	Asp	Lys	Pro	Ala	Lys	Glu	Ala	Tyr	Ala
	210					215					220				
His	Ile	Arg	Gly	Val	Thr	Pro	Ala	Pro	Gly	Ala	Trp	Thr	Leu	Phe	Ser
225					230					235				240	
Phe	Ser	Glu	Lys	Ala	Pro	Lys	Arg	Leu	Met	Ile	Arg	Lys	Ala	Ser	Leu
				245					250					255	
Leu	Ala	Glu	Ala	Gly	Arg	Tyr	Gly	Ala	Pro	Gly	Thr	Val	Val	Val	Thr
		260						265					270		
Asp	Arg	Gln	Glu	Leu	Ala	Ile	Ala	Cys	Ser	Glu	Gly	Ala	Ile	Cys	Leu
		275					280					285			
His	Glu	Val	Gln	Val	Glu	Gly	Lys	Gly	Ser	Thr	Asn	Ser	Lys	Ser	Phe
	290					295					300				
Leu	Asn	Gly	Tyr	Pro	Ala	Lys	Lys	Leu	Lys	Ile	Val	Phe	Thr	Leu	Asn
305					310					315					320
Asn															

<210> 652
 <211> 283
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0650

<400> 652

Ser	Arg	Arg	Asn	Met	Ala	Ser	Ile	His	Pro	Thr	Ala	Ile	Ile	Glu	Pro
1				5					10					15	
Gly	Ala	Lys	Ile	Gly	Lys	Asp	Val	Val	Ile	Glu	Pro	Tyr	Val	Val	Ile
			20					25					30		
Lys	Ala	Thr	Val	Thr	Leu	Cys	Asp	Asn	Val	Val	Val	Lys	Ser	Tyr	Ala
		35					40					45			
Tyr	Ile	Asp	Gly	Asn	Thr	Thr	Ile	Gly	Lys	Gly	Thr	Thr	Ile	Trp	Pro
	50						55					60			

Ser Ala Met Ile Gly Asn Lys Pro Gln Asp Leu Lys Tyr Gln Gly Glu
 65 70 75 80
 Lys Thr Tyr Val Thr Ile Gly Glu Asn Cys Glu Ile Arg Glu Phe Ala
 85 90 95
 Ile Ile Thr Ser Ser Thr Phe Glu Gly Thr Thr Val Ser Ile Gly Asn
 100 105 110
 Asn Cys Leu Ile Met Pro Trp Ala His Val Ala His Asn Cys Thr Ile
 115 120 125
 Gly Asn Asn Val Val Leu Ser Asn His Ala Gln Leu Ala Gly His Val
 130 135 140
 Gln Val Gly Asp Tyr Ala Ile Leu Gly Gly Met Val Gly Val His Gln
 145 150 155 160
 Phe Val Arg Ile Gly Ala His Ala Met Val Gly Ala Leu Ser Gly Ile
 165 170 175
 Arg Arg Asp Val Pro Pro Tyr Thr Ile Gly Ser Gly Asn Pro Tyr Gln
 180 185 190
 Leu Ala Gly Ile Asn Lys Val Gly Leu Gln Arg Arg Gln Val Pro Phe
 195 200 205
 Ala Thr Arg Leu Ala Leu Ile Lys Ala Phe Lys Lys Ile Tyr Arg Ala
 210 215 220
 Asp Gly Cys Phe Phe Glu Ser Leu Glu Glu Thr Leu Glu Glu Tyr Gly
 225 230 235 240
 Asp Ile Pro Glu Val Lys Asn Phe Ile Glu Phe Cys Gln Ser Pro Ser
 245 250 255
 Lys Arg Gly Ile Glu Arg Ser Ile Asp Lys Gln Ala Leu Glu Glu Glu
 260 265 270
 Ser Ala Asp Lys Glu Gly Val Leu Ile Glu Ser
 275 280

<210> 653
 <211> 153
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0651

<400> 653
 Met Asn Gln Pro Ser Val Ile Lys Leu Arg Glu Leu Leu Asp Leu Leu
 1 5 10 15
 Pro His Arg Tyr Pro Phe Leu Leu Val Asp Lys Val Leu Ser Tyr Asp
 20 25 30
 Ile Glu Ala Arg Ser Ile Thr Ala Gln Lys Asn Val Thr Ile Asn Glu
 35 40 45
 Pro Phe Phe Met Gly His Phe Pro Asn Ala Pro Ile Met Pro Gly Val
 50 55 60
 Leu Ile Leu Glu Ala Leu Ala Gln Ala Ala Gly Val Leu Ile Gly Leu
 65 70 75 80
 Val Leu Glu Asn Asp Arg Asn Lys Arg Ile Ala Leu Phe Leu Gly Ile
 85 90 95
 Gln Lys Ala Lys Phe Arg Gln Ala Val Arg Pro Gly Asp Val Leu Thr
 100 105 110
 Leu Gln Ala Asp Phe Ser Leu Ile Ser Ser Lys Gly Gly Lys Ala Trp
 115 120 125
 Ala Gln Ala Arg Val Asp Ser Gln Leu Val Thr Glu Ala Glu Leu Ser
 130 135 140
 Phe Ala Leu Val Asp Lys Glu Ser Ile
 145 150

<210> 654
 <211> 297
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0652

<400> 654
 Lys Arg Asn Ser Ile Ile Tyr Gly Asp Ser Leu Ser Gly Phe Tyr Met
 1 5 10 15
 Leu Glu Arg Thr Gln Arg Thr Leu Lys Arg Glu Val Arg Tyr Ser Gly
 20 25 30
 Val Gly Ile His Leu Gly Lys Ser Ser Thr Leu His Leu Gln Pro Ala
 35 40 45
 Gln Thr Asn Thr Gly Ile Val Phe Gln Arg Gln Ser Ala Ser Gly Asn
 50 55 60
 Tyr Glu Asn Val Pro Ala Leu Leu Asp His Val Tyr Thr Thr Gly Arg
 65 70 75 80
 Ser Thr Thr Leu Ser Arg Gly Ser Ala Val Ile Ala Thr Val Glu His
 85 90 95
 Leu Met Ala Ala Leu Arg Ser Asn Asn Ile Asp Asn Leu Ile Ile Gln
 100 105 110
 Cys Ser Gly Glu Glu Ile Pro Ile Gly Asp Gly Ser Ser Asn Val Phe
 115 120 125
 Val Glu Leu Ile Asp Gln Ala Gly Ile Cys Glu Gln Glu Asp Lys Val
 130 135 140
 Ser Ile Ala Arg Leu Thr Arg Pro Val Tyr Tyr Gln His Gln Asp Ile
 145 150 155 160
 Phe Leu Ala Ala Phe Pro Ser Asp Glu Leu Lys Ile Ser Tyr Thr Leu
 165 170 175
 His Tyr Pro Gln Ser Ser Thr Ile Gly Thr Gln Tyr Lys Ser Leu Val
 180 185 190
 Ile Asn Glu Glu Ser Phe Arg Gln Glu Ile Ala Pro Cys Arg Thr Phe
 195 200 205
 Ala Leu Tyr Asn Glu Leu Cys Phe Leu Met Glu Lys Gly Leu Ile Gly
 210 215 220
 Gly Gly Cys Leu Asp Asn Ala Val Val Phe Lys Asp Asp Gly Ile Ile
 225 230 235 240
 Ser Arg Gly Gln Leu Arg Phe Ala Asp Glu Pro Val Arg His Lys Ile
 245 250 255
 Leu Asp Leu Ile Gly Asp Leu Ser Leu Val Gly Arg Pro Phe Val Ala
 260 265 270
 His Val Leu Ala Val Gly Ser Gly His Ser Ser Asn Ile Ala Phe Gly
 275 280 285
 Lys, Lys Ile Leu Glu Ala Leu Glu Leu
 290 295

<210> 655
 <211> 544
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0653

<400> 655
 Gly Glu Pro Val Leu Arg Ile Phe Cys Phe Val Ile Ser Trp Cys Leu
 1 5 10 15
 Ile Ala Phe Ala Gln Pro Asp Leu Ser Gly Phe Val Ser Ile Leu Gly
 20 25 30

927

Gly Asp Tyr Pro Met Ile Leu Ile Ala Phe Cys Ala Val Ser Tyr Leu
515 520 525
Gly Gly Gly Phe Leu Gly Tyr Arg Leu Leu Ala Lys Lys Glu Ile Arg
530 535 540

<210> 656
<211> 183
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0654

<400> 656
Lys Lys Ile Ile Asp Phe Leu Ser Val Asp Arg Tyr Tyr Arg Asn Gln
1 5 10 15
Glu Tyr Pro Ile Lys Ile Leu Ser Val Glu Ser Thr Met Leu Lys Lys
20 25 30
Lys Pro Val Ser Phe Ser Cys Ile Asp Gly His Ile Tyr Lys Ile Phe
35 40 45
Pro Asn Asp Leu Asn Ala Asn Asn Thr Val Phe Gly Gly Leu Leu Met
50 55 60
Ser Leu Leu Asp Arg Leu Ala Leu Val Val Ala Glu Arg His Thr Glu
65 70 75 80
Ser Val Cys Val Thr Ala Phe Val Asp Ala Leu Arg Phe Tyr Ala Pro
85 90 95
Ala Tyr Met Gly Glu Asn Leu Ile Cys Lys Ala Ala Val Asn Arg Thr
100 105 110
Trp Arg Thr Ser Leu Glu Val Gly Val Lys Val Trp Ala Glu Asn Ile
115 120 125
Tyr Lys Gln Glu Arg Arg His Ile Thr Ser Ala Tyr Phe Thr Phe Val
130 135 140
Ala Val Asn Glu Asp Asn Gln Pro Ile Pro Val His Gln Ile Val Pro
145 150 155 160
Glu Thr Pro Glu Glu Lys Arg Arg Tyr Asn Glu Ala Asp Arg Arg Arg
165 170 175
Gln Ala Arg Leu Glu Leu Lys
180

<210> 657
<211> 252
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0655

<400> 657
Lys Glu Ile Met Ser Leu Leu Lys Asp Thr Val Phe Thr Cys Leu Asp
1 5 10 15
Cys Glu Met Thr Gly Leu Asp Val Lys Lys Asp Arg Ile Ile Glu Ile
20 25 30
Ala Ala Val Arg Phe Thr Phe Asp Ser Val Ile Ser Ser Ile Glu Phe
35 40 45
Leu Ile Asn Pro Glu Arg Val Ser Ala Glu Ser Gln Arg Val His
50 55 60
His Ile Ser Asn Ala Met Leu Arg Asp Gln Pro Lys Ile Ala Glu Val
65 70 75 80
Phe Pro Gln Ile Lys Ala Phe Phe Lys Glu Gly Asp Tyr Ile Val Gly
85 90 95

His Ser Val Gly Phe Asp Leu Gln Val Leu Ala Gln Glu Met Glu Arg
 100 105 110
 Ile Gly Glu Thr Phe Leu Ser Lys Tyr Thr Ile Ile Asp Thr Leu Arg
 115 120 125
 Leu Ala Lys Glu Tyr Gly Asp Ser Pro Asn Asn Ser Leu Glu Ser Leu
 130 135 140
 Ala Val His Phe Asn Val Pro Tyr Asp Gly Asn His Arg Ala Met Lys
 145 150 155 160
 Asp Val Glu Ile Asn Ile Asn Ile Phe Lys His Leu Cys Lys Arg Phe
 165 170 175
 Arg Thr Leu Glu Gln Leu Lys Gln Val Leu Ala Lys Pro Ile Lys Met
 180 185 190
 Lys Tyr Met Pro Leu Gly Lys His Lys Gly Arg Cys Phe Ser Glu Ile
 195 200 205
 Pro Leu Ala Tyr Leu Gln Trp Ala Ser Lys Met Asp Phe Asp Ser Asp
 210 215 220
 Leu Leu Phe Ser Ile Arg His Glu Ile Lys His Arg Gln Lys Gly Thr
 225 230 235 240
 Gly Phe Ser Gln Val Asn Asn Pro Phe Met Glu Leu
 245 250

<210> 658
 <211> 69
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0656

<400> 658
 Thr His Asn Phe Leu Leu Leu Pro Leu Ser Leu Phe Asp Ile Leu Leu
 1 5 10 15
 Thr Val Glu Gly Phe Leu Cys Leu Thr Leu Tyr Phe Ala Ser Val Gln
 20 25 30
 Arg Met Pro Cys Glu Gln Lys Arg Val Pro Gly Asn Leu Tyr Tyr Tyr
 35 40 45
 Tyr Ile Ala Ala His Ser Ser Leu Cys Leu Ser Val Cys Lys Asp Thr
 50 55 60
 Met Glu Asn Lys Asp
 65

<210> 659
 <211> 142
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0657

<400> 659
 Pro Met Gly Arg Tyr Arg Arg Val Ser His Ser Ser Gln Glu Thr Leu
 1 5 10 15
 Leu Leu Gly Thr Glu Leu Gly Gln Val Leu Val Pro Gly Ala Val Leu
 20 25 30
 Leu Leu Phe Gly Asp Tyr Gly Ala Gly Lys Thr Glu Phe Val Arg Gly
 35 40 45
 Ile Val Ser Gly Tyr Leu Gly Asp Thr Ile Ala Glu Glu Val Ala Ser
 50 55 60
 Pro Ser Phe Ser Ile Leu His Val Tyr Gly Asn Glu Pro Lys Arg Leu
 65 70 75 80

<400> 661
 Leu Gln Glu Asn Asn Arg Asp Ser Asn Ser Ile Phe Phe Arg Glu Gly
 1 5 10 15
 Lys Leu Met Val Lys Ile Ile Ser Ser Glu Asn Phe Asp Ser Phe Ile
 20 25 30
 Ala Ser Gly Leu Val Leu Val Asp Phe Phe Ala Glu Trp Cys Gly Pro
 35 40 45
 Cys Arg Met Leu Thr Pro Ile Leu Glu Asn Leu Ala Ala Glu Leu Pro
 50 55 60
 His Val Thr Ile Gly Lys Ile Asn Ile Asp Glu Asn Ser Lys Pro Ala
 65 70 75 80
 Glu Thr Tyr Glu Val Ser Ser Ile Pro Thr Leu Ile Leu Phe Lys Asp
 85 90 95
 Gly Asn Glu Val Ala Arg Val Val Gly Leu Lys Asp Lys Glu Phe Leu
 100 105 110
 Thr Asn Leu Ile Asn Lys His Ala
 115 120

<210> 662
 <211> 156
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0660

<400> 662
 Met Arg Val Val Leu His Cys Pro Asp Ile Pro Gln Asn Thr Gly Asn
 1 5 10 15
 Ile Gly Arg Thr Cys Val Ala Leu Gly Ala Glu Leu Ile Leu Val Arg
 20 25 30
 Pro Leu Gly Phe Ser Leu Ala Asp Lys Phe Val Lys Arg Ala Gly Met
 35 40 45
 Asp Tyr Trp Asp Lys Leu Gln Leu Thr Val Val Asp Ser Ile Glu Glu
 50 55 60
 Ala Leu His Asp Val Pro Glu Asp Gln Ile Phe Cys Leu Ser Thr Lys
 65 70 75 80
 Gly Ser Ala Ser Tyr Thr Glu Phe Ser Leu Pro Ser Ser Gly Thr Tyr
 85 90 95
 Val Phe Gly Ser Glu Ser Lys Gly Leu Pro Lys Glu Ile Leu Lys Lys
 100 105 110
 Tyr Tyr Lys Asn Cys Leu Arg Ile Pro Met Gln Gln Asp Ile Arg Ser
 115 120 125
 Leu Asn Leu Ala Thr Ser Val Gly Ile Val Leu Tyr Glu Val Val Arg
 130 135 140
 Gln Lys Thr Val Ala Leu Gln Lys Asn Pro Thr Val
 145 150 155

<210> 663
 <211> 271
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0661

<400> 663
 His Ser Arg Cys Leu Lys Ile Lys Asp Arg Arg Arg Lys Met Asn Arg
 1 5 10 15
 Arg Trp Asn Leu Val Leu Ala Thr Val Ala Leu Ala Leu Ser Val Ala
 20 25 30

Ser Cys Asp Val Arg Ser Lys Asp Lys Asp Lys Asp Gln Gly Ser Leu
 35 40 45
 Val Glu Tyr Lys Asp Asn Lys Asp Thr Asn Asp Ile Glu Leu Ser Asp
 50 55 60
 Asn Gln Lys Leu Ser Arg Thr Phe Gly His Leu Leu Ala Arg Gln Leu
 65 70 75 80
 Arg Lys Ser Glu Asp Met Phe Phe Asp Ile Ala Glu Val Ala Lys Gly
 85 90 95
 Leu Gln Ala Glu Leu Val Cys Lys Ser Ala Pro Leu Thr Glu Thr Glu
 100 105 110
 Tyr Glu Glu Lys Met Ala Glu Val Gln Lys Leu Val Phe Glu Lys Lys
 115 120 125
 Ser Lys Glu Asn Leu Ser Leu Ala Glu Lys Phe Leu Lys Glu Asn Ser
 130 135 140
 Lys Asn Ala Gly Val Val Glu Val Gln Pro Ser Lys Leu Gln Tyr Lys
 145 150 155 160
 Ile Ile Lys Glu Gly Ala Gly Lys Ala Ile Ser Gly Lys Pro Ser Ala
 165 170 175
 Leu Leu His Tyr Lys Gly Ser Phe Ile Asn Gly Gln Val Phe Ser Ser
 180 185 190
 Ser Glu Gly Asn Asn Glu Pro Ile Leu Leu Pro Leu Gly Gln Thr Ile
 195 200 205
 Pro Gly Phe Ala Leu Gly Met Gln Gly Met Lys Glu Gly Glu Thr Arg
 210 215 220
 Val Leu Tyr Ile His Pro Asp Leu Ala Tyr Gly Thr Ala Gly Gln Leu
 225 230 235 240
 Pro Pro Asn Ser Leu Leu Ile Phe Glu Ile Asn Leu Ile Gln Ala Ser
 245 250 255
 Ala Asp Glu Val Ala Ala Val Pro Gln Glu Gly Asn Gln Gly Glu
 260 265 270

<210> 664
 <211> 589
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0662

<400> 664
 Ser Lys Gly Cys Tyr Met Lys Tyr Arg Thr His Arg Cys Asn Glu Leu
 1 5 10 15
 Thr Ser Asn His Ile Gly Glu Asn Val Gln Leu Ala Gly Trp Val His
 20 25 30
 Arg Tyr Arg Asn His Gly Gly Val Val Phe Ile Asp Leu Arg Asp Arg
 35 40 45
 Phe Gly Ile Thr Gln Ile Val Cys Arg Glu Asp Glu Gln Pro Glu Leu
 50 55 60
 His Gln Arg Leu Asp Ala Val Arg Ser Glu Trp Val Leu Ser Val Arg
 65 70 75 80
 Gly Lys Val Cys Pro Arg Leu Ala Gly Met Glu Asn Pro Asn Leu Ala
 85 90 95
 Thr Gly His Ile Glu Val Glu Val Ala Ser Phe Glu Val Leu Ser Lys
 100 105 110
 Ser Gln Asn Leu Pro Phe Ser Ile Ala Asp Asp His Ile Asn Val Asn
 115 120 125
 Glu Glu Leu Arg Leu Glu Tyr Arg Tyr Leu Asp Met Arg Arg Gly Asp
 130 135 140
 Ile Ile Glu Lys Leu Leu Cys Arg His Gln Val Met Leu Ala Cys Arg
 145 150 155 160
 Asn Phe Met Asp Ala Gln Gly Phe Thr Glu Ile Val Thr Pro Val Leu

165

170

175

Gly Lys Ser Thr Pro Glu Gly Ala Arg Asp Tyr Leu Val Pro Ser Arg
 180 185 190
 Ile Tyr Pro Gly Lys Phe Tyr Ala Leu Pro Gln Ser Pro Gln Leu Phe
 195 200 205
 Lys Gln Leu Leu Met Val Gly Gly Leu Asp Arg Tyr Phe Gln Ile Ala
 210 215 220
 Thr Cys Phe Arg Asp Glu Asp Leu Arg Ala Asp Arg Gln Pro Glu Phe
 225 230 235 240
 Ala Gln Ile Asp Ile Glu Met Ser Phe Gly Asp Thr Gln Asp Leu Leu
 245 250 255
 Pro Ile Ile Glu Gln Leu Val Ala Thr Leu Phe Ala Thr Gln Gly Ile
 260 265 270
 Glu Ile Pro Leu Pro Leu Ala Lys Met Thr Tyr Gln Glu Ala Lys Asp
 275 280 285
 Ser Tyr Gly Thr Asp Lys Pro Asp Leu Arg Phe Asp Leu Lys Leu Lys
 290 295 300
 Asp Cys Arg Asp Tyr Ala Lys Arg Ser Ser Phe Ser Ile Phe Leu Asp
 305 310 315 320
 Gln Leu Ala His Gly Gly Thr Ile Lys Gly Phe Cys Val Pro Gly Gly
 325 330 335
 Ala Thr Met Ser Arg Lys Gln Leu Asp Gly Tyr Thr Glu Phe Val Lys
 340 345 350
 Arg Tyr Gly Ala Met Gly Leu Val Trp Ile Lys Asn Gln Glu Gly Lys
 355 360 365
 Val Ala Ser Asn Ile Ala Lys Phe Met Asp Glu Glu Val Phe His Glu
 370 375 380
 Leu Phe Ala Tyr Phe Asp Ala Lys Asp Gln Asp Ile Leu Leu Leu Ile
 385 390 395 400
 Ala Ala Pro Glu Ser Val Ala Asn Gln Ser Leu Asp His Leu Arg Arg
 405 410 415
 Leu Ile Ala Lys Glu Arg Glu Leu Tyr Ser Asp Asn Gln Tyr Asn Phe
 420 425 430
 Val Trp Ile Thr Asp Phe Pro Leu Phe Ser Leu Glu Asp Gly Lys Ile
 435 440 445
 Val Ala Glu His His Pro Phe Thr Ala Pro Leu Glu Glu Asp Ile Pro
 450 455 460
 Leu Leu Glu Thr Asp Pro Leu Ala Val Arg Ser Ser Ser Tyr Asp Leu
 465 470 475 480
 Val Leu Asn Gly Tyr Glu Ile Ala Ser Gly Ser Gln Arg Ile His Asn
 485 490 495
 Pro Asp Leu Gln Ser Gln Ile Phe Thr Ile Leu Lys Ile Ser Pro Glu
 500 505 510
 Ser Ile Gln Glu Lys Phe Gly Phe Phe Ile Lys Ala Leu Ser Phe Gly
 515 520 525
 Thr Pro Pro His Leu Gly Ile Ala Leu Gly Leu Asp Arg Leu Val Met
 530 535 540
 Val Leu Thr Ala Ala Glu Ser Ile Arg Glu Val Ile Ala Phe Pro Lys
 545 550 555 560
 Thr Gln Lys Ala Ser Asp Leu Met Met Asn Ala Pro Ser Glu Ile Met
 565 570 575
 Ser Ser Gln Leu Lys Glu Leu Ser Ile Lys Val Ala Phe
 580 585

<210> 665
 <211> 440
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0663

<400> 665

Lys Ser Asn His Phe Glu Arg Arg His His Val Thr Val Thr Leu Pro
1 5 10 15
Lys Gly Val Phe Asp Ile Phe Pro Tyr Leu Ala Asp Ala Lys Gln Leu
20 25 30
Trp Arg His Thr Ser Leu Trp His Ser Val Glu Lys Ala Ile His Thr
35 40 45
Val Cys Met Leu Tyr Gly Phe Cys Glu Ile Arg Thr Pro Ile Phe Glu
50 55 60
Lys Ser Glu Val Phe Leu His Val Gly Glu Glu Ser Asp Val Val Lys
65 70 75 80
Lys Glu Val Tyr Ser Phe Leu Asp Arg Lys Gly Arg Ser Met Thr Leu
85 90 95
Arg Pro Glu Gly Thr Ala Ala Val Val Arg Ser Phe Leu Glu His Gly
100 105 110
Ala Ser His Arg Ser Asp Asn Lys Phe Tyr Tyr Ile Leu Pro Met Phe
115 120 125
Arg Tyr Glu Arg Gln Gln Ala Gly Arg Tyr Arg Gln His His Gln Phe
130 135 140
Gly Val Glu Ala Ile Gly Val Arg His Pro Leu Arg Asp Ala Glu Val
145 150 155 160
Leu Ala Leu Leu Trp Asp Phe Tyr Ser Arg Val Gly Leu Gln His Met
165 170 175
Gln Ile Gln Leu Asn Phe Leu Gly Gly Ser Glu Thr Arg Phe Arg Tyr
180 185 190
Asp Lys Val Leu Arg Ala Tyr Leu Lys Glu Ser Met Gly Glu Leu Ser
195 200 205
Ala Leu Ser Gln Gln Arg Phe Ser Thr Asn Val Leu Arg Ile Leu Asp
210 215 220
Ser Lys Glu Pro Glu Asp Gln Glu Ile Ile Arg Gln Ala Pro Pro Ile
225 230 235 240
Leu Asp Tyr Val Ser Asp Glu Asp Leu Lys Tyr Phe Asn Glu Ile Leu
245 250 255
Asp Ala Leu Arg Val Leu Glu Ile Pro Tyr Ala Ile Asn Pro Arg Leu
260 265 270
Val Arg Gly Leu Asp Tyr Tyr Ser Asp Leu Val Phe Glu Ala Thr Thr
275 280 285
Thr Phe Gln Glu Val Ser Tyr Ala Leu Gly Gly Gly Gly Arg Tyr Asp
290 295 300
Gly Leu Ile Ser Ala Phe Gly Gly Ala Ser Leu Pro Ala Cys Gly Phe
305 310 315 320
Gly Val Gly Leu Glu Arg Ala Ile Gln Thr Leu Leu Ala Gln Lys Arg
325 330 335
Ile Glu Pro Gln Phe Pro His Lys Leu Arg Leu Ile Pro Met Glu Pro
340 345 350
Asp Ala Asp Gln Phe Cys Leu Glu Trp Ser Gln His Leu Arg Arg Leu
355 360 365
Gly Ile Pro Thr Glu Val Asp Trp Ser His Lys Lys Val Lys Gly Ala
370 375 380
Leu Lys Ala Ala Ser Thr Glu Gln Val Ser Phe Val Cys Leu Ile Gly
385 390 395 400
Glu Arg Glu Leu Ile Ser Gln Gln Leu Val Ile Lys Asn Met Ser Leu
405 410 415
Arg Lys Glu Phe Phe Gly Thr Lys Glu Glu Val Glu Gln Arg Leu Leu
420 425 430
Tyr Glu Ile Gln Asn Thr Pro Leu
435 440

<210> 666
 <211> 73
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0664

<400> 666
 Leu Trp Glu Ala His Ala Met Lys Lys Leu Ile Ala Leu Ile Gly Ile
 1 5 10 15
 Phe Leu Val Pro Ile Lys Gly Asn Thr Asn Lys Glu His Asp Ala His
 20 25 30
 Ala Thr Val Leu Lys Ala Ala Arg Ala Lys Tyr Asn Leu Phe Phe Val
 35 40 45
 Gln Asp Val Phe Pro Val His Glu Val Ile Glu Pro Ile Ser Pro Asp
 50 55 60
 Cys Leu Val His Tyr Glu Gly Trp Val
 65 70

<210> 667
 <211> 456
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0665

<400> 667
 Lys Met Asn Val Trp Thr Lys Phe Phe Gln Pro Pro Lys His Ile Lys
 1 5 10 15
 Glu Ile Glu Asp Gln Glu Val Val Lys Lys Tyr Lys Tyr Trp Arg
 20 25 30
 Ile Arg Ile Phe Tyr Ser Met Phe Ile Gly Tyr Ile Phe Tyr Tyr Phe
 35 40 45
 Thr Arg Lys Ser Phe Thr Phe Ala Met Pro Thr Leu Ile Ala Asp Leu
 50 55 60
 Gly Phe Asp Lys Ala Gln Leu Gly Ile Ile Gly Ser Thr Leu Tyr Phe
 65 70 75 80
 Ser Tyr Gly Ile Ser Lys Phe Val Ser Gly Val Met Ser Asp Gln Ser
 85 90 95
 Asn Pro Arg Tyr Phe Met Ala Ile Gly Leu Met Ile Thr Gly Leu Thr
 100 105 110
 Asn Ile Phe Phe Gly Met Ser Ser Ser Ile Val Leu Phe Ala Leu Trp
 115 120 125
 Trp Gly Leu Asn Gly Trp Phe Gln Gly Trp Gly Trp Pro Pro Cys Ala
 130 135 140
 Arg Leu Leu Thr His Trp Tyr Ala Lys Ser Glu Arg Gly Thr Trp Trp
 145 150 155 160
 Ser Val Trp Ser Thr Ser His Asn Ile Gly Gly Ala Leu Ile Pro Ile
 165 170 175
 Leu Thr Gly Phe Ile Ile Asp Tyr Ser Gly Trp Arg Gly Ala Met Tyr
 180 185 190
 Val Pro Gly Ile Leu Cys Ile Gly Met Gly Leu Val Leu Ile Asn Arg
 195 200 205
 Leu Arg Asp Thr Pro Gln Ser Leu Gly Leu Pro Pro Ile Glu Lys Tyr
 210 215 220
 Lys Arg Asp Pro His His Ala His His Glu Gly Lys Ser Ala Ser Glu
 225 230 235 240
 Gly Thr Glu Glu Ile Glu Arg Glu Leu Ser Thr Arg Glu Ile Leu Phe
 245 250 255

Thr Tyr Val Leu Thr Asn Gln Trp Leu Trp Phe Leu Ala Ala Ala Ser
 260 265 270
 Phe Phe Ile Tyr Ile Val Arg Met Ala Val Asn Asp Trp Ser Ala Leu
 275 280 285
 Phe Leu Ile Glu Thr Lys His Tyr Ala Ala Val Lys Ala Asn Phe Cys
 290 295 300
 Val Ser Leu Phe Glu Ile Gly Gly Leu Phe Gly Met Leu Val Ala Gly
 305 310 315 320
 Trp Leu Ser Asp Lys Ile Ser Lys Gly Asn Arg Gly Pro Met Asn Val
 325 330 335
 Leu Phe Ser Leu Gly Leu Leu Phe Ala Ile Leu Gly Met Trp Phe Ser
 340 345 350
 Arg Ser His Asn Gln Trp Trp Val Asp Gly Thr Leu Leu Phe Val Ile
 355 360 365
 Gly Phe Phe Leu Tyr Gly Pro Gln Met Met Ile Gly Leu Ala Ala Ala
 370 375 380
 Glu Leu Ser His Lys Lys Ala Ala Gly Thr Ala Ser Gly Phe Thr Gly
 385 390 395 400
 Trp Phe Ala Tyr Phe Gly Ala Thr Phe Ala Gly Tyr Pro Leu Gly Lys
 405 410 415
 Val Thr Asp Val Trp Gly Trp Lys Gly Phe Phe Ile Ala Leu Leu Ala
 420 425 430
 Cys Ala Ser Ile Ala Leu Leu Leu Phe Leu Pro Thr Trp Asn Ala Thr
 435 440 445
 Glu Lys Asn Thr Arg Ser Lys Ala
 450 455

<210> 668
 <211> 1243
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0666

<400> 668
 Gly Phe Phe Leu Thr Trp Ile Pro Leu His Cys His Ser Gln Tyr Ser
 1 5 10 15
 Val Leu Asp Ala Met Ser Ser Ile Lys Asp Phe Val Ala Lys Gly Gln
 20 25 30
 Glu Phe Gly Ile Pro Ala Leu Ala Leu Thr Asp His Gly Asn Leu Tyr
 35 40 45
 Gly Ala Val Asp Phe Tyr Lys Glu Cys Thr Gln Lys Gly Ile Gln Pro
 50 55 60
 Ile Ile Gly Cys Glu Cys Tyr Ile Ala Pro Gly Ser Arg Phe Asp Lys
 65 70 75 80
 Lys Lys Glu Lys Arg Ser Arg Ala Ala His His Leu Ile Leu Leu Cys
 85 90 95
 Lys Asn Glu Gln Gly Tyr Arg Asn Leu Cys Ile Leu Thr Ser Leu Ala
 100 105 110
 Phe Thr Glu Gly Phe Tyr Tyr Phe Pro Arg Ile Asp Lys Asp Leu Leu
 115 120 125
 Arg Gln Tyr Ser Glu Gly Leu Ile Cys Leu Ser Gly Cys Leu Ser Ser
 130 135 140
 Ser Val Ser Asp Ala Ala Leu Lys Ser Pro Glu Ala Leu Leu Leu Glu
 145 150 155 160
 Leu Gln Trp Phe Gln Asp Leu Phe Lys Asp Asp Tyr Phe Thr Glu Val
 165 170 175
 Gln Leu His Lys Met Ser Glu Glu Ser Ile Ala Gly Phe Lys Glu Glu
 180 185 190

Trp Leu Lys Gln Glu Tyr Tyr Ser Leu Ile Glu Lys Gln Ile Lys Val
 195 200 205
 Asn Thr Ala Val Leu Glu Ala Ser Lys Arg Leu Gly Ile Pro Thr Val
 210 215 220
 Ala Thr Asn Asp Ile His Tyr Ile Asn Ala Asn Asp Trp Gln Ala His
 225 230 235 240
 Glu Ile Leu Leu Asn Val Gln Ser Gly Glu Thr Val Arg Ile Ala Lys
 245 250 255
 Gln Asn Thr His Ile Pro Asn Pro Lys Arg Lys Val Tyr Arg Ser Arg
 260 265 270
 Glu Tyr Tyr Phe Lys Ser Pro Ala Gln Met Ala Glu Leu Phe Lys Asp
 275 280 285
 Ile Pro Glu Val Ile Ser Asn Thr Leu Glu Val Ala Lys Arg Cys Asp
 290 295 300
 Phe Thr Phe Asp Phe Ser Lys Lys His Tyr Pro Ile Tyr Val Pro Glu
 305 310 315 320
 Ser Leu Lys Thr Leu Asn Ser Tyr Thr Glu Glu Asp Arg Tyr Gln Ala
 325 330 335
 Ser Ala Val Phe Leu Lys Gln Leu Ala Glu Glu Ala Leu Pro Lys Lys
 340 345 350
 Tyr Ser Ser Glu Val Leu Ala His Ile Ala Lys Lys Phe Pro His Arg
 355 360 365
 Asp Pro Ile Asp Ile Val Lys Glu Arg Met Asp Met Glu Met Ala Ile
 370 375 380
 Ile Ile Pro Lys Gly Met Cys Asp Tyr Leu Leu Ile Val Trp Asp Ile
 385 390 395 400
 Ile His Trp Ala Lys Ala Asn Gly Ile Pro Val Gly Pro Gly Arg Gly
 405 410 415
 Ser Gly Ala Gly Ser Val Leu Leu Phe Leu Leu Gly Ile Thr Glu Ile
 420 425 430
 Glu Pro Ile Arg Phe Asp Leu Phe Phe Glu Arg Phe Ile Asn Pro Glu
 435 440 445
 Arg Leu Ser Tyr Pro Asp Ile Asp Ile Asp Ile Cys Met Ala Gly Arg
 450 455 460
 Glu Arg Val Ile Asn Tyr Ala Ile Glu Arg His Gly Lys Asp Asn Val
 465 470 475 480
 Ala Gln Ile Ile Thr Phe Gly Thr Met Lys Ala Lys Met Ala Val Lys
 485 490 495
 Asp Val Gly Arg Thr Leu Asp Met Ala Leu Ser Lys Val Asn His Ile
 500 505 510
 Ala Lys His Ile Pro Asp Leu Asn Thr Thr Leu Ser Lys Ala Leu Glu
 515 520 525
 Thr Asp Pro Asp Leu His Gln Leu Tyr Ile Asn Asp Ala Glu Ser Ala
 530 535 540
 Gln Val Ile Asp Met Ala Leu Cys Leu Glu Gly Ser Ile Arg Asn Thr
 545 550 555 560
 Gly Val His Ala Ala Gly Val Ile Ile Cys Gly Asp Gln Leu Thr Asn
 565 570 575
 His Ile Pro Ile Cys Ile Ser Lys Asp Ser Thr Met Ile Thr Thr Gln
 580 585 590
 Tyr Ser Met Lys Pro Val Glu Ser Val Gly Met Leu Lys Val Asp Leu
 595 600 605
 Leu Gly Leu Lys Thr Leu Thr Ser Ile Asn Ile Ala Met Ser Ala Ile
 610 615 620
 Glu Lys Lys Thr Gly Gln Ser Leu Ala Met Ala Thr Leu Pro Leu Asp
 625 630 635 640
 Asp Ala Thr Thr Phe Ser Leu Leu His Gln Gly Lys Thr Met Gly Ile
 645 650 655
 Phe Gln Met Glu Ser Lys Gly Met Gln Glu Leu Ala Lys Asn Leu Arg
 660 665 670

Pro Asp Leu Phe Glu Glu Ile Ile Ala Met Gly Ala Leu Tyr Arg Pro
 675 680 685
 Gly Pro Met Asp Met Ile Pro Ser Phe Ile Asn Arg Lys His Gly Lys
 690 695 700
 Glu Ile Ile Glu Tyr Asp His Pro Leu Met Glu Ser Ile Leu Lys Glu
 705 710 715 720
 Thr Tyr Gly Ile Met Val Tyr Gln Glu Gln Val Met Gln Ile Ala Gly
 725 730 735
 Ala Leu Ala Ser Tyr Ser Leu Gly Glu Gly Asp Val Leu Arg Arg Ala
 740 745 750
 Met Gly Lys Lys Asp Phe Gln Gln Met Glu Gln Glu Arg Glu Lys Phe
 755 760 765
 Cys Lys Arg Ala Cys Asn Asn Gly Ile Asp Pro Glu Leu Ala Thr Val
 770 775 780
 Ile Phe Asp Lys Met Glu Lys Phe Ala Ala Tyr Gly Phe Asn Lys Ser
 785 790 795 800
 His Ala Ala Ala Tyr Gly Leu Ile Thr Tyr Thr Thr Ala Tyr Leu Lys
 805 810 815
 Ala Asn Tyr Pro Lys Glu Trp Leu Ala Ala Leu Leu Thr Cys Asp Ser
 820 825 830
 Asp Asp Ile Glu Lys Ile Gly Lys Leu Ile Arg Glu Ala Gln Ser Met
 835 840 845
 Gly Ile Pro Ile Leu Pro Pro His Ile Asn Val Ser Ser Asn His Phe
 850 855 860
 Val Ala Thr Asp Glu Gly Ile Arg Phe Ala Met Gly Ala Ile Lys Gly
 865 870 875 880
 Ile Gly Arg Gly Leu Ile Glu Ser Ile Val Glu Glu Arg Asp His His
 885 890 895
 Gly Pro Tyr Glu Ser Ile Arg Asp Phe Ile Gln Arg Ser Asp Leu Lys
 900 905 910
 Lys Val Ser Lys Lys Ser Ile Glu Ser Leu Ile Asp Ala Gly Cys Phe
 915 920 925
 Asp Cys Phe Asp Ser Asn Arg Asp Leu Leu Leu Ala Ser Val Glu Pro
 930 935 940
 Leu Tyr Glu Ala Ile Ala Lys Asp Lys Lys Glu Ala Ala Ser Gly Val
 945 950 955 960
 Met Thr Phe Phe Thr Leu Gly Ala Met Asp Arg Lys Asn Glu Val Pro
 965 970 975
 Ile Cys Leu Pro Lys Asp Ile Pro Thr Arg Ser Lys Lys Glu Leu Leu
 980 985 990
 Lys Lys Glu Lys Glu Leu Leu Gly Ile Tyr Leu Thr Glu His Pro Met
 995 1000 1005
 Asp Thr Val Arg Asp His Leu Ser Arg Leu Ser Val Val Leu Ala Gly
 1010 1015 1020
 Glu Phe Glu Asn Leu Pro His Gly Ser Val Val Arg Thr Val Phe Ile
 1025 1030 1035 1040
 Ile Asp Lys Val Thr Thr Lys Ile Ser Ser Lys Ala Gln Lys Lys Phe
 1045 1050 1055
 Ala Val Leu Arg Val Ser Asp Gly Ile Asp Ser Tyr Glu Leu Pro Ile
 1060 1065 1070
 Trp Pro Asp Met Tyr Glu Glu Gln Gln Glu Leu Leu Glu Glu Asp Arg
 1075 1080 1085
 Leu Ile Tyr Ala Ile Leu Val Leu Asp Lys Arg Ser Asp Ser Leu Arg
 1090 1095 1100
 Ile Ser Cys Arg Trp Met Lys Asp Leu Ser Ile Val Asn Glu Asn Ile
 1105 1110 1115 1120
 Ile Tyr Glu Cys Asp Gln Ala Phe Asp Arg Ile Lys Asn Gln Val Gln
 1125 1130 1135
 Lys Met Ser Phe Thr Met Ser Thr Ser Gly Lys Glu Thr Lys Ala Lys
 1140 1145 1150

Gly Asn Lys Pro Asn Glu Asn Gly His Thr Gln Ala Leu Ala Pro Val
 1155 1160 1165
 Thr Leu Ser Leu Asp Leu Asn Glu Leu Arg His Ser His Leu Cys Ile
 1170 1175 1180
 Leu Lys Lys Ile Val Gln Lys His Pro Gly Ser Arg Thr Leu Val Leu
 1185 1190 1195 1200
 Val Phe Thr Gln Asp Asn Glu Arg Val Ala Ser Met Ser Pro Asp Asp
 1205 1210 1215
 Ala Tyr Phe Val Cys Glu Asp Ile Glu Glu Leu Arg Gln Glu Leu Val
 1220 1225 1230
 Thr Ala Asp Leu Pro Val Arg Val Ile Thr Val
 1235 1240

<210> 669
 <211> 307
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0667

<400> 669
 Asn Ile Ser Leu Leu Cys Lys Ile Gln Lys Arg Tyr Phe Met Lys Lys
 1 5 10 15
 Leu Ile Leu Tyr Phe Ala Ala Phe Val Ala Ser Leu Phe Cys Gly Val
 20 25 30
 Phe Leu Trp Asp Arg Val Pro Cys Ala Gln Lys Ile Met Arg Leu Ala
 35 40 45
 Ala Asp His Ser Ser Glu Val Phe Ser Lys Ser Cys Arg Phe Val Arg
 50 55 60
 Lys Ile Ser Gly Phe Glu Glu Leu Gln Val Phe Glu Arg His Val Ser
 65 70 75 80
 Pro Glu Gln Ala Leu Ala Leu Phe Pro Glu Tyr Arg Asp Gly Lys Ser
 85 90 95
 Phe Val Glu Leu Ala Phe Ile Pro His Thr Leu Met His Val Arg Phe
 100 105 110
 Ser Lys Glu Glu Pro Val Lys Lys His Ile Ile Ser Gln Glu Gly Glu
 115 120 125
 Ile Leu Trp Ser Leu Val Asn Gly Glu Met Val Leu His Thr Gly Thr
 130 135 140
 Trp Thr Cys Ser Lys Gly Phe Arg Glu Cys Leu Leu Leu His Ala Gly
 145 150 155 160
 Lys Gln Asp Met Arg Val Ile Gln Thr Leu Ala Thr Leu Gly Gly Thr
 165 170 175
 Thr Ser Arg Glu Ser Leu Ala Gln Ala Leu Ala Leu Lys Asn Ile Arg
 180 185 190
 Ala Glu Arg Val Ile Lys Glu Cys Gln Lys Lys Lys Leu Ile Phe Ala
 195 200 205
 Ser Gly Asn Gln Ile Gly Thr His Phe Gln Gln Phe Gln Pro Ile Arg
 210 215 220
 Gly Cys Thr Thr Thr Leu Asn Asn Asn Pro Val Trp Leu Gln Lys Pro
 225 230 235 240
 Arg His Ala Ala Val Phe Pro Ala Gln Tyr Ser Glu Asp Arg Val Arg
 245 250 255
 His Leu Val Lys Met Ile Phe Gly Asp Asn Phe Leu Ile Val Arg Ser
 260 265 270
 Ser Met Val Tyr Val Pro Val Tyr Lys Ile Ser Leu Val Ser Ala Asp
 275 280 285
 Asn Ser Val Arg Val Glu Tyr Ile Asn Ala Val Thr Gly Lys Ser Phe
 290 295 300

Gln Asp Leu
305

<210> 670
<211> 329
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0668

<400> 670
Trp Arg Phe Val Val Ser Pro Arg Leu Ile Met Lys Phe Leu Leu
1 5 10 15
Tyr Val Pro Leu Leu Leu Val Leu Val Ser Thr Gly Cys Asp Ala Lys
20 25 30
Pro Val Ser Phe Glu Pro Phe Ser Gly Lys Leu Ser Thr Gln Arg Phe
35 40 45
Glu Pro Gln His Ser Ala Glu Tyr Phe Ser Gln Gly Gln Glu Phe
50 55 60
Leu Lys Lys Gly Asn Phe Arg Lys Ala Leu Leu Cys Phe Gly Ile Ile
65 70 75 80
Thr His His Phe Pro Arg Asp Ile Leu Arg Asn Gln Ala Gln Tyr Leu
85 90 95
Ile Gly Val Cys Tyr Phe Thr Gln Asp His Pro Asp Leu Ala Asp Lys
100 105 110
Ala Phe Ala Ser Tyr Leu Gln Leu Pro Asp Ala Glu Tyr Ser Glu Glu
115 120 125
Leu Phe Gln Met Lys Tyr Ala Ile Ala Gln Arg Phe Ala Gln Gly Lys
130 135 140
Arg Lys Arg Ile Cys Arg Leu Glu Gly Phe Pro Lys Leu Met Asn Ala
145 150 155 160
Asp Glu Asp Ala Leu Arg Ile Tyr Asp Glu Ile Leu Thr Ala Phe Pro
165 170 175
Ser Lys Asp Leu Gly Ala Gln Ala Leu Tyr Ser Lys Ala Ala Leu Leu
180 185 190
Ile Val Lys Asn Asp Leu Thr Glu Ala Thr Lys Thr Leu Lys Lys Leu
195 200 205
Thr Leu Gln Phe Pro Leu His Ile Leu Ser Ser Glu Ala Phe Val Arg
210 215 220
Leu Ser Glu Ile Tyr Leu Gln Gln Ala Lys Lys Glu Pro His Asn Leu
225 230 235 240
Gln Tyr Leu His Phe Ala Lys Leu Asn Glu Glu Ala Met Lys Lys Gln
245 250 255
His Pro Asn His Pro Leu Asn Glu Val Val Ser Ala Asn Val Gly Ala
260 265 270
Met Arg Glu His Tyr Ala Arg Gly Leu Tyr Ala Thr Gly Arg Phe Tyr
275 280 285
Glu Lys Lys Lys Lys Ala Glu Ala Ala Asn Ile Tyr Tyr Arg Thr Ala
290 295 300
Ile Thr Asn Tyr Pro Asp Thr Leu Leu Val Ala Lys Cys Gln Lys Arg
305 310 315 320
Leu Asp Arg Ile Ser Lys His Thr Ser
325

<210> 671
<211> 212
<212> PRT
<213> Chlamydia pneumoniae

<220>

<223> CPn0669

<400> 671

Ile Glu Tyr Leu Ser Ile Leu Pro Lys Ile Glu Ile Asn Met Arg Leu
1 5 10 15
Phe Ser Leu Gly Thr Ile Tyr Leu Phe Phe Ser Leu Ala Leu Ser Ser
20 25 30
Cys Cys Gly Tyr Ser Ile Leu Asn Ser Pro Tyr His Leu Ser Ser Leu
35 40 45
Gly Lys Ser Leu Leu Gln Glu Arg Ile Phe Ile Ala Pro Ile Lys Glu
50 55 60
Asp Pro His Gly Gln Leu Cys Ser Ala Leu Thr Tyr Glu Leu Ser Lys
65 70 75 80
Arg Ser Phe Ala Ile Ser Gly Arg Ser Ser Cys Ala Gly Tyr Thr Leu
85 90 95
Lys Val Glu Leu Leu Asn Gly Ile Asp Lys Asn Ile Gly Phe Thr Tyr
100 105 110
Ala Pro Asn Lys Leu Gly Asp Lys Thr His Arg His Phe Ile Val Ser
115 120 125
Asn Glu Gly Arg Leu Ser Leu Ser Ala Lys Val Gln Leu Ile Asn Asn
130 135 140
Asp Thr Gln Glu Val Leu Ile Asp Gln Cys Val Ala Arg Glu Ser Val
145 150 155 160
Asp Phe Asp Phe Glu Pro Asp Leu Gly Thr Ala Asn Ala His Glu Phe
165 170 175
Ala Leu Gly Gln Phe Glu Met His Ser Glu Ala Ile Lys Ser Ala Arg
180 185 190
Arg Ile Leu Ser Ile Arg Leu Ala Glu Thr Ile Ala Gln Gln Val Tyr
195 200 205
Tyr Asp Leu Phe
210

<210> 672

<211> 153

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0670

<400> 672

Pro Arg Arg Leu Leu Asn Arg Tyr Thr Met Thr Phe Phe Glu Gly Glu
1 5 10 15
Thr Val Phe Pro Ala Val Leu Ser Glu Leu His Ser Met Leu Asp Leu
20 25 30
Ile Lys Arg Ala Gly Lys Gln Ser Lys Cys Pro Gln Glu Lys Leu Leu
35 40 45
Lys Leu Glu Leu Ala Cys Glu Glu Leu Leu Val Asn Ile Ile Ser Tyr
50 55 60
Ala Tyr Gln Gly Glu Asn Ser Pro Gly Thr Ile Ala Ile Ser Cys Ile
65 70 75 80
Ser His Arg Gly Asp Leu Glu Val Val Ile Lys Asp His Gly Pro Ser
85 90 95
Phe Asn Pro Leu Ala Val Ser Ile Asn Ile Gln Glu Asp Leu Pro Leu
100 105 110
Glu Gln Arg Lys Leu Gly Gly Leu Gly Ile Phe Leu Ala Lys Ser Ser
115 120 125
Val Asp Glu Phe Leu Tyr Ala Arg Glu Asp His Cys Asn Ile Val His
130 135 140

Leu Lys Met Leu Asn Gly Gln His Ser
 145 150

<210> 673
 <211> 152
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0671

<400> 673
 Arg Ile Thr Ile Asn Gln Arg Lys Tyr Thr Met Ser Leu Asp Phe Phe
 1 5 10 15
 Glu Glu Phe Tyr His Gln Ser Ile Leu Asn Thr Gly Thr Ser Phe Pro
 20 25 30
 Glu Gly Tyr Leu Asn Ile Ala Glu Ile Leu Ser Tyr Pro His Cys Thr
 35 40 45
 Asp Ala Asn Thr Asp Phe Leu Cys Ser Gln Ser Asp Asn Asp Phe Ile
 50 55 60
 Ile Ala Glu Ser Lys Asp Lys Leu Thr Leu Phe Asn Ala Asp Phe Ala
 65 70 75 80
 Ile Trp Leu Val Pro Glu Leu Val Gln Gly Gln Ala Val Thr Arg Gly
 85 90 95
 Tyr Ile Ala Val Ser Gln Gly Glu Gly Asn Tyr Glu Pro Glu Met Ala
 100 105 110
 Phe Glu Ala Ser Gly Gln Tyr Asn Gln Ser Ser Leu Ile Leu Glu Ala
 115 120 125
 Leu Gln Leu Tyr Leu Lys Asp Ile Lys Asp Thr Glu Asn Ala Leu Arg
 130 135 140
 Ser Phe Arg Phe Asn Asn Asp His
 145 150

<210> 674
 <211> 442
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0672

<400> 674
 Thr Ile Lys Ser Pro His Met Lys Arg Pro Phe Phe Thr Tyr Leu Cys
 1 5 10 15
 Ile Ile Phe Tyr Gly Ser Cys Ala Ser Leu Ser Leu His Ala Gly Leu
 20 25 30
 Ser Phe Pro Glu Val Arg Gly Ala Thr Ala Ala Val Val His Ala Asp
 35 40 45
 Ser Gly Lys Val Phe Tyr Asp Lys Asp Ile Asp Ala Val Ile Tyr Pro
 50 55 60
 Ala Ser Met Thr Lys Ile Ala Thr Ala Leu Phe Ile Leu Lys His Tyr
 65 70 75 80
 Pro Thr Val Leu Asp Thr Leu Ile Lys Val Lys Gln Asp Ala Ile Ala
 85 90 95
 Ser Ile Thr Pro Gln Ala Lys Lys Gln Ser Gly Tyr Arg Ser Pro Pro
 100 105 110
 His Trp Leu Glu Thr Asp Gly Ser Thr Ile Gln Leu His Leu Arg Glu
 115 120 125
 Glu Leu Leu Gly Trp Asp Leu Phe His Ala Leu Leu Val Cys Ser Ala
 130 135 140

Asn Asp Ala Ala Asn Val Leu Ala Met Ala Cys Cys Gly Ser Val Glu
 145 150 155 160
 Lys Phe Met Asp Lys Leu Asn Phe Phe Leu Lys Glu Glu Ile Gly Cys
 165 170 175
 Thr His Thr His Phe Asn Asn Pro His Gly Leu His His Pro Asn His
 180 185 190
 Tyr Thr Thr Thr Arg Asp Leu Ile Ser Ile Met Arg Cys Ala Leu Lys
 195 200 205
 Glu Pro Pro Phe Arg Gly Val Ile Ser Thr Thr Ser Tyr Lys Ile Gly
 210 215 220
 Ala Thr Asn Leu His Gly Glu Arg Ile Leu Ser Pro Thr Asn Lys Leu
 225 230 235 240
 Leu Leu Pro Gly Ser Thr Tyr His Tyr Pro Pro Ala Leu Gly Gly Lys
 245 250 255
 Thr Gly Thr Thr Lys Thr Ala Gly Lys Asn Leu Ile Met Ala Ala Glu
 260 265 270
 Lys Asn Asn Arg Leu Leu Val Thr Ile Ala Thr Gly Tyr Ser Gly Pro
 275 280 285
 Val Ser Asp Leu Tyr Gln Asp Val Ile Ala Leu Cys Glu Thr Val Phe
 290 295 300
 Asn Glu Pro Leu Leu Arg Lys Glu Leu Val Pro Pro Ser Asp Cys Leu
 305 310 315 320
 Gln Leu Glu Ile Ala Asn Leu Gly Lys Leu Ser Cys Pro Leu Pro Glu
 325 330 335
 Gly Leu Tyr Tyr Asp Phe Tyr Ala Ser Glu Asp Arg Glu Pro Leu Ser
 340 345 350
 Val Ser Phe Ile Ala His Ala Asp Ala Phe Pro Ile Glu Gln Gly Asp
 355 360 365
 Leu Leu Gly His Trp Val Phe Tyr Asp Asp Glu Gly Lys Lys Ile Ser
 370 375 380
 Ser Gln Pro Phe Tyr Ala Pro Cys Arg Phe Glu Arg Thr Ile Lys Pro
 385 390 395 400
 Trp Lys Leu Tyr Met Lys Arg Val Phe Thr Ser Tyr Arg Thr Tyr Met
 405 410 415
 Ser Ile Thr Met Leu Leu Met Tyr Phe Arg Ile Arg Lys His Arg Lys
 420 425 430
 Tyr Lys Asn Leu Lys His Tyr Ser Lys Ile
 435 440

<210> 675
 <211> 74
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0673

<400> 675
 Gly Lys Ser Thr Glu Gly Lys Ala Tyr His Cys Phe Leu Lys Gln Val
 1 5 10 15
 Ser Ile Ala Leu Asn Arg Glu Glu Val Trp Asp Asn Pro His His Leu
 20 25 30
 Met Phe Ile Leu Met Gln Phe Gln Gln Phe Ser Gly Glu Gln Asp Arg
 35 40 45
 Phe Gly Ser Phe Leu Glu Ala Thr Ile Arg Asp Arg Val Ser Phe Leu
 50 55 60
 Val Leu Gln Glu Lys Ile Ala Thr Leu Lys
 65 70

<210> 676
 <211> 371
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0674

<400> 676
 Arg Gly Ile Leu Tyr Val Thr Met Val Pro Phe Arg Gln His His Ala
 1 5 10 15
 Tyr Gln Leu Leu Lys Gln Leu His Thr Ser Ala Ile Ser Glu Ala Asp
 20 25 30
 Arg Val Ser Tyr Tyr Phe Lys Gln Asn Arg Ser Leu Gly Ser Lys Asp
 35 40 45
 Arg Gln Trp Ile Gln Asn Ile Ile Phe Asn Ile Leu Arg His Arg Arg
 50 55 60
 Leu Leu Glu Thr Leu Ile Leu Asp Ser Gly Glu Gln Val Thr Pro Glu
 65 70 75 80
 Ala Leu Val Ala Lys Val Asn Glu Gly Val Leu Glu Asn Leu Asp Ser
 85 90 95
 Tyr Ser Ala Ile Pro Trp Pro Val Arg Tyr Ser Ile Ser Asp Asp Leu
 100 105 110
 Ala His Phe Leu Val Gln Asp Tyr Gly Glu Glu Gln Ala Glu Glu Ile
 115 120 125
 Ala Lys Ile Trp Leu Thr Glu Ala Pro Ile Thr Ile Arg Val Asn Thr
 130 135 140
 Asp Lys Ile Ser Val Lys Glu Leu Gln Glu Lys Leu Glu Tyr Pro Ser
 145 150 155 160
 Ser Pro Gly Glu Leu Pro Glu Ala Leu His Phe Ser Lys Arg His Pro
 165 170 175
 Leu Gln Ser Thr Glu Ala Phe Arg Arg Gly Phe Phe Glu Ile Gln Asp
 180 185 190
 Glu Asn Ser Gln Arg Ile Ser Gln Gly Ile Ser Leu Thr Asp Lys Asp
 195 200 205
 Ile Val Leu Asp Phe Cys Ala Gly Ala Gly Gly Lys Ser Leu Ile Phe
 210 215 220
 Ala Gln Lys Ala Lys His Val Val Ile Asn Asp Ser Arg Lys Ala Ile
 225 230 235 240
 Leu Gln Thr Ala Lys His Arg Leu Leu Arg Ala Gly Ala Arg Asn Phe
 245 250 255
 Ser Leu Ala Asp Gln Leu Arg Leu Gly Ser Phe Ser Val Val Ile Val
 260 265 270
 Asp Ala Pro Cys Ser Gly Thr Gly Val Phe Arg Arg His Pro Glu His
 275 280 285
 Lys Trp Gln Phe Ser Lys Lys Leu Leu Leu Asn Tyr Val Arg Val Gln
 290 295 300
 Lys Ser Ile Leu Lys Gln Ala Ser Ala Tyr Val Gly Pro Arg Gly Arg
 305 310 315 320
 Leu Val Tyr Ile Thr Cys Ser Leu Leu Lys Glu Glu Asn Glu Ala His
 325 330 335
 Val Ala Tyr Met His Ser Leu Gly Trp Lys Glu Val His Arg Lys Thr
 340 345 350
 Leu Pro Leu Gln Val Gly Lys Gly Asp Ala Phe Phe Thr Ser His Phe
 355 360 365
 Gln Lys Ile
 370

<210> 677
 <211> 388
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0675

<400> 677
 Val Pro Leu Ser Met Ile Leu Asp Phe Gln Phe Ser Ile Gly Tyr Tyr
 1 5 10 15
 Leu Arg Val Leu Glu Leu Ala Ile Arg Asp Gly Thr Arg Ile Leu Ala
 20 25 30
 Tyr Asp Arg Lys Arg Leu Leu Leu Asp Ala Trp Pro Val Asn Asp Pro
 35 40 45
 Leu Pro Thr Asn Tyr Asp Thr Ser Val Ser Thr Ile Arg Gln Val Ile
 50 55 60
 His Glu Leu Phe Ser Trp Ser Ala Ile Ser Tyr Ser Ile Ser Ser Arg
 65 70 75 80
 Leu Leu Ala Ile Ile Glu Leu Arg Leu His Glu Glu Lys Pro Gln Thr
 85 90 95
 Gly Trp Leu Tyr Arg Leu Phe Phe Pro Ser Lys Tyr His Ile Lys Lys
 100 105 110
 Ala Ile Val Asp Lys Leu Cys Met Phe Lys Ser Leu Ile Leu Phe Glu
 115 120 125
 Ser Lys Arg Pro Val Asp Lys Ile Val Gln Ala Ala Asn Lys Val Phe
 130 135 140
 Ser Lys Gly Lys Ser Asn Phe Ser Ser Trp Glu Asp Phe Thr His Glu
 145 150 155 160
 Val Thr Val Ser Glu Val Gln Thr Pro Leu Ala Gly Glu Val Gln Arg
 165 170 175
 Arg Leu Ala Ala Asp Ala Ser Leu Gln Met Ile Ile Glu Ala Leu Thr
 180 185 190
 Thr Leu Leu Glu Gly His Thr Ala Tyr Leu Pro Leu Ser Leu Glu Leu
 195 200 205
 Leu Asn Gln Phe Ile Gly Glu Lys Ala Gln Pro Leu Lys Thr Leu Ser
 210 215 220
 Glu Lys Ser Tyr Val Leu Leu Arg Glu Leu Ile Gln Leu Phe Ser Leu
 225 230 235 240
 Ser Ala Glu Asp Phe Gln Thr Ile Ile Met Ser Ile Ile Ser Asp Ser
 245 250 255
 Leu Ser Glu Val Leu Ala Asn Ser Leu Ile Gly Asn Gln Pro Leu Thr
 260 265 270
 Phe His Gly Lys Thr Phe Val Gly Leu Trp Gln Glu Thr Ala Leu Ala
 275 280 285
 Ser Pro Glu Asp Ser Lys Leu Ala Leu Gly Phe Leu Ala Glu Val Leu
 290 295 300
 Arg Lys Val Ile Val Glu Lys Lys Leu His Val Ser Lys Ser Asp Asn
 305 310 315 320
 Thr Thr Pro Glu Glu Val Gly Asn Ile Tyr Ser Ile Arg Asp Gln Asn
 325 330 335
 Pro Ala Leu Trp Asp Lys Met Ile Thr Met Leu Leu Met Arg Trp Leu
 340 345 350
 Leu Asp Tyr Asp Arg Asp Ile Gly Ile Ala Leu Arg Lys Ala Ala Glu
 355 360 365
 Tyr Tyr Asn Pro His Pro Ser Phe Trp Arg Gln Phe Leu Arg Leu Trp
 370 375 380
 Gln Arg Arg Pro
 385

<210> 678
 <211> 390
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0676

<400> 678
 Ser Met Gly Thr Pro Ile Ser Gly Asn Asp Gly Asp Arg Asn Thr Ile
 1 5 10 15
 Ser Asp Pro Leu Glu Glu Ser Ala Ala Glu Glu Gly Asp Ser Asp Leu
 20 25 30
 Glu Asp Arg Val Ser Glu Ser Ala Thr Gln Val Ile Glu Thr Ile Ala
 35 40 45
 Asp Thr Gly Ile Pro Glu Ala Thr Pro Ser Glu Gly Thr Asn Ser Asp
 50 55 60
 Leu Asn Ser Asp Leu Val Asp Arg Val Glu Tyr Glu Ala Arg Gly Ser
 65 70 75 80
 Leu Leu Thr Thr Met Leu Ala Arg Ile Arg Lys Ala Val Ser Gln Ile
 85 90 95
 Trp Met His Val Lys Thr Lys Arg His Pro Lys Glu Gln Gly Val Arg
 100 105 110
 Ser Leu Gly Asp Ile Pro Cys Asp Leu Leu Lys Ala Thr Arg Leu Pro
 115 120 125
 Lys Glu Thr Ala Glu Pro Pro Tyr Phe Tyr Ala Leu Glu Thr Ala Leu
 130 135 140
 Ala Ser Cys Arg Ser Phe Phe Phe His Val Phe Leu Arg Leu Phe Thr
 145 150 155 160
 Leu Leu Arg Arg Gln His Pro Glu Ala Pro Leu Asp Leu Cys Gly Thr
 165 170 175
 Asp Pro Ile Ser Pro Glu Ala Ala Val Ala Phe Ala Leu Ile Leu Arg
 180 185 190
 Ser Cys Cys Lys Trp Val Ala Thr Asp Ala Val Gln Glu Gly Leu Pro
 195 200 205
 Leu Glu Val Ile Glu Glu Ala Gly Met Tyr Asn Ala Phe Ser Leu Glu
 210 215 220
 Ala Thr Thr Thr Val Glu Glu Val Ser Lys Arg Leu Ser Glu Leu Leu
 225 230 235 240
 Tyr Ser Asp Lys Arg Ile Asp Gly Leu Ala Asn Val Arg Gly Ile Thr
 245 250 255
 Lys Ile Ile Thr Ser Pro Tyr Leu Gly Ala Gly Gln Cys Val Ser Val
 260 265 270
 Val Asp Asn Leu Lys Thr Tyr Asp Leu Gly Arg Asn Tyr Thr Gln Val
 275 280 285
 Leu Ala Cys Ala Ser Gln Ile Asp Glu Phe Ala Asp Lys Gly Glu Asn
 290 295 300
 Glu Ala Leu Val Met Lys Asp Ile Leu Tyr Leu Val Arg Gln Asp Arg
 305 310 315 320
 Ser Lys Glu Leu Gly Asp Phe Leu Met Met Trp Ser Glu Glu His Ala
 325 330 335
 Ser Glu Val Asn Tyr Asp Val Val Leu Ala Ile Leu Glu Val Asn Leu
 340 345 350
 Pro Ile Leu Glu Glu Asp Tyr Arg Ser His Pro Leu Ala Tyr Gln Lys
 355 360 365
 Lys Leu Asn Tyr Val Ile Cys Gln Phe Phe Cys Ser Glu Arg Leu Thr
 370 375 380
 Ser Ile Glu Pro Lys Asp
 385 390

<210> 679
 <211> 385
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0677

<400> 679
 Arg Ile Ala Met Gly Ile Asn Pro Ser Gly Asn Arg Ser Pro Asp Asp
 1 5 10 15
 Val Trp Val Arg Gly Ala Gln Gly Asp Ser Ser Ser Thr Gln Gly Thr
 20 25 30
 Gly Ala Thr Asn Ser Asn Leu Gly Ala His Asn Val Thr Thr Ser Thr
 35 40 45
 Ser Gln Pro Gln Val Ala Ser Lys Ala Lys Gln Leu Trp Gln Thr Val
 50 55 60
 Arg Glu Phe Phe Leu Gly Lys Lys Ser Pro Asp Ser Ser Gln Gly Ala
 65 70 75 80
 Ser Gly Pro Ala Met Gln Ser Pro Ser Gly Pro Thr Ile Arg Pro Thr
 85 90 95
 Arg Pro Ala Pro Pro Pro Pro Thr Thr Gly Gly Ala Asn Ala Lys Arg
 100 105 110
 Pro Ala Thr His Gly Lys Gly Arg Ala Pro Gln Pro Pro Thr Ala Gly
 115 120 125
 Ser Ser Ser Gly Ser Glu Gln Pro Thr Ala Met Ser Ser Glu Val Ala
 130 135 140
 Lys Leu Val Ser Glu Leu Lys Asp Ala Val His Ser His Ala Glu Ser
 145 150 155 160
 Gln Lys Val Leu Lys Lys Val Ser Gln Glu Leu Gln Thr Lys Trp Thr
 165 170 175
 Asp Trp Glu Asn Asn Arg Gly Pro Asp Tyr Leu Leu His Gly Tyr Arg
 180 185 190
 Val Ile Ala Arg Ala Leu Gln Gln Thr Tyr Thr Glu Gln Ser Met Leu
 195 200 205
 Ile Glu Gly Thr Ser Ser Thr Gly Pro Val Pro Gln Ala Val Thr Val
 210 215 220
 Ala Lys Asp Ala Val Thr Gln Thr Val Arg Gly Ala Ile Lys Asn Leu
 225 230 235 240
 Glu Asn Pro Lys Pro Gly Asn Asp Pro Asp Gly Val Leu Met Gln Val
 245 250 255
 Val Ile Ser Leu Gly Ile Glu Gly Pro Thr Leu Asp Pro Gly Glu Ser
 260 265 270
 Ile Gln Asn Phe Leu Glu Thr Arg Val Ser Asp Phe Gly Gly Asp Asp
 275 280 285
 Ser Asp Ile Asp Tyr Thr Ser Asp Ile Ala Arg Leu Gly Ser Ala Leu
 290 295 300
 Asp Arg Val Arg Glu Asn His Pro Asn Glu Met Pro Arg Ile Trp Ile
 305 310 315 320
 Ala Leu Ala Arg Glu Leu Gly Ala Ala Val His Ser His Ala Thr Ser
 325 330 335
 Val Arg Ile Ala Asn Ala Gly Lys Asn His Thr Arg Asp Val Val Arg
 340 345 350
 Met Ala Asn Glu Ser Ser Arg Leu Leu Gln Gly Met Lys Val Leu Ser
 355 360 365
 Val Gly Ala Trp Ala Asn Thr Met Thr Val Leu Ile Gly Asp Leu Phe
 370 375 380
 Glu
 385

<210> 680
 <211> 216
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0678

<400> 680
 Lys Ile Ile Met Ser Val Asn Pro Ser Gly Asn Ser Lys Asn Asp Leu
 1 5 10 15
 Trp Ile Thr Gly Ala His Asp Gln His Pro Asp Val Lys Glu Ser Gly
 20 25 30
 Val Thr Ser Ala Asn Leu Gly Ser His Arg Val Thr Ala Ser Gly Gly
 35 40 45
 Arg Gln Gly Leu Leu Ala Arg Ile Lys Glu Ala Val Thr Gly Phe Phe
 50 55 60
 Ser Arg Met Ser Phe Phe Arg Ser Gly Ala Pro Arg Gly Ser Gln Gln
 65 70 75 80
 Pro Ser Ala Pro Ser Ala Asp Thr Val Arg Ser Pro Leu Pro Gly Gly
 85 90 95
 Asp Ala Arg Ala Thr Glu Gly Ala Gly Arg Asn Leu Ile Lys Lys Gly
 100 105 110
 Tyr Gln Pro Gly Met Lys Val Thr Ile Pro Gln Val Pro Gly Gly Gly
 115 120 125
 Ala Gln Arg Ser Ser Gly Ser Thr Thr Leu Lys Pro Thr Arg Pro Ala
 130 135 140
 Pro Pro Pro Pro Lys Thr Gly Gly Thr Asn Ala Lys Arg Pro Ala Thr
 145 150 155 160
 His Gly Lys Gly Pro Ala Pro Gln Pro Pro Lys Thr Gly Gly Thr Asn
 165 170 175
 Ala Lys Arg Ala Ala Thr His Gly Lys Gly Pro Ala Pro Gln Pro Pro
 180 185 190
 Lys Gly Ile Leu Lys Gln Pro Gly Gln Ser Gly Thr Ser Gly Lys Lys
 195 200 205
 Arg Val Ser Trp Ser Asp Glu Asp
 210 215

<210> 681
 <211> 404
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0679

<400> 681
 Gly Tyr Met Asp Lys Leu Thr Val Gln Asp Leu Ser Pro Glu Glu Lys
 1 5 10 15
 Lys Val Leu Val Arg Val Asp Phe Asn Val Pro Met Gln Asp Gly Lys
 20 25 30
 Ile Leu Asp Asp Ile Arg Ile Arg Ser Ala Met Pro Thr Ile Asn Tyr
 35 40 45
 Leu Leu Lys Lys His Ala Ala Val Ile Leu Met Ser His Leu Gly Arg
 50 55 60
 Pro Lys Gly Gln Gly Phe Gln Glu Glu Tyr Ser Leu Gln Pro Val Val
 65 70 75 80
 Asp Val Leu Glu Gly Tyr Leu Gly His His Val Pro Leu Ala Pro Asp
 85 90 95
 Cys Val Gly Glu Val Ala Arg Gln Ala Val Ala Gln Leu Ser Pro Gly
 100 105 110

Arg Val Leu Leu Leu Glu Asn Leu Arg Phe His Ile Gly Glu Glu His
 115 120 125
 Pro Glu Lys Asp Pro Thr Phe Ala Ala Glu Leu Ser Ser Tyr Gly Asp
 130 135 140
 Phe Tyr Val Asn Asp Ala Phe Gly Thr Ser His Arg Lys His Ala Ser
 145 150 155 160
 Val Tyr Val Val Pro Gln Ala Phe Pro Gly Arg Ala Ala Ala Gly Leu
 165 170 175
 Leu Met Glu Lys Glu Leu Glu Phe Leu Gly Arg His Leu Leu Thr Ser
 180 185 190
 Pro Lys Arg Pro Phe Thr Ala Ile Leu Gly Gly Ala Lys Ile Ser Ser
 195 200 205
 Lys Ile Gly Val Ile Glu Ala Leu Leu Asn Gln Val Asp Tyr Leu Leu
 210 215 220
 Leu Ala Gly Gly Met Gly Phe Thr Phe Leu Gln Ala Leu Gly Lys Ser
 225 230 235 240
 Leu Gly Asn Ser Leu Val Glu Lys Ser Ala Leu Asp Leu Ala Arg Asn
 245 250 255
 Val Leu Lys Ile Ala Lys Ser Arg Asn Val Thr Ile Val Leu Pro Ser
 260 265 270
 Asp Val Lys Ala Ala Glu Asn Leu Gln Ser Lys Glu Tyr Ser Val Ile
 275 280 285
 Ser Ile Asp Gln Gly Ile Pro Pro His Leu Gln Gly Phe Asp Ile Gly
 290 295 300
 Pro Arg Thr Thr Glu Glu Phe Ile Arg Ile Ile Asn Gln Ser Ala Thr
 305 310 315 320
 Val Phe Trp Asn Gly Pro Val Gly Val Tyr Glu Val Pro Pro Phe Asp
 325 330 335
 Ser Gly Ser Ile Ala Ile Ala Asn Ala Leu Gly Asn His Pro Ser Ala
 340 345 350
 Val Thr Val Val Gly Gly Gly Asp Ala Ala Ala Val Val Ala Leu Ala
 355 360 365
 Gly Cys Ser Thr Lys Val Ser His Val Ser Thr Gly Gly Gly Ala Ser
 370 375 380
 Leu Glu Phe Leu Glu Gln Gly Phe Leu Pro Gly Thr Glu Val Leu Ser
 385 390 395 400
 Pro Ser Lys Ser

<210> 682
 <211> 428
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0680

<400> 682
 Tyr Ser Met Leu Pro Leu Ile Ile Phe Val Leu Leu Cys Gly Phe Tyr
 1 5 10 15
 Thr Ser Trp Asn Ile Gly Ala Asn Asp Val Ala Asn Ala Val Gly Pro
 20 25 30
 Ser Val Gly Ser Gly Val Leu Thr Leu Arg Gln Ala Val Val Ile Ala
 35 40 45
 Ala Ile Phe Glu Phe Phe Gly Ala Leu Leu Leu Gly Asp Arg Val Ala
 50 55 60
 Gly Thr Ile Glu Ser Ser Ile Val Ser Val Thr Asn Pro Met Ile Ala
 65 70 75 80
 Ser Gly Asp Tyr Met Tyr Gly Met Thr Ala Ala Leu Leu Ala Thr Gly
 85 90 95

Val Trp Leu Gln Leu Ala Ser Phe Phe Gly Trp Pro Val Ser Thr Thr
 100 105 110
 His Ser Ile Val Gly Ala Val Ile Gly Phe Gly Leu Val Leu Gly Lys
 115 120 125
 Gly Thr Ile Ile Tyr Trp Asn Ser Val Gly Ile Ile Leu Ile Ser Trp
 130 135 140
 Ile Leu Ser Pro Phe Met Gly Gly Cys Val Ala Tyr Leu Ile Phe Ser
 145 150 155 160
 Phe Ile Arg Arg His Ile Phe Tyr Lys Asn Asp Pro Val Leu Ala Met
 165 170 175
 Val Arg Val Ala Pro Phe Leu Ala Ala Leu Val Ile Met Thr Leu Gly
 180 185 190
 Thr Val Met Ile Ser Gly Gly Val Ile Leu Lys Val Ser Ser Thr Pro
 195 200 205
 Trp Ala Val Ser Gly Val Leu Val Cys Gly Leu Leu Ser Tyr Ile Ile
 210 215 220
 Thr Phe Tyr Tyr Val His Thr Lys His Cys Ser Tyr Ile Ser Asp Thr
 225 230 235 240
 Pro Lys Lys Gly Ser Leu Thr Tyr Arg Leu Lys Glu Arg Gly Gly Asn
 245 250 255
 Tyr Gly Arg Lys Tyr Leu Val Val Glu Arg Ile Phe Ala Tyr Leu Gln
 260 265 270
 Ile Ile Val Ala Cys Phe Met Ala Phe Ala His Gly Ser Asn Asp Val
 275 280 285
 Ala Asn Ala Ile Ala Pro Val Ala Gly Val Leu Arg Gln Ala Tyr Pro
 290 295 300
 Ala Ser Tyr Thr Ser Tyr Thr Leu Ile Arg Leu Met Ala Phe Gly Gly
 305 310 315 320
 Ile Gly Leu Val Ile Gly Leu Ala Ile Trp Gly Trp Arg Val Ile Glu
 325 330 335
 Thr Val Gly Cys Lys Ile Thr Glu Leu Thr Pro Ser Arg Gly Phe Ser
 340 345 350
 Val Gly Met Gly Ser Ala Leu Thr Ile Ala Leu Ala Ser Ile Leu Gly
 355 360 365
 Leu Pro Ile Ser Thr Thr His Val Val Val Gly Ala Val Leu Gly Ile
 370 375 380
 Gly Leu Ala Arg Gly Ile Arg Ala Ile Asn Leu Asn Ile Ile Lys Asp
 385 390 395 400
 Ile Val Leu Ser Trp Phe Ile Thr Leu Pro Ala Gly Ala Leu Leu Ser
 405 410 415
 Ile Leu Phe Phe Phe Ala Leu Arg Ala Leu Phe His
 420 425

<210> 683

<211> 248

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0681

<400> 683

Asn Gly Ile Arg Ser His Lys Ser Phe Thr Arg Ser Phe Arg Gln Val
 1 5 10 15
 Ile Ile Ala Lys Lys Ala Ile Leu Met Gln Thr Leu Ala Arg Leu Phe
 20 25 30
 Gly Gln Ser Pro Phe Ala Pro Leu Gln Ala His Leu Glu Met Val Val
 35 40 45
 Ser Cys Val Glu Tyr Met Leu Pro Ile Phe Thr Ala Leu Arg Asp Gly
 50 55 60

Arg Tyr Glu Glu Leu Leu Glu Met Ala Lys Leu Val Ser Asp Lys Glu
 65 70 75 80
 Tyr Gln Ala Asp Cys Ile Lys Asn Asp Met Arg Asn His Leu Pro Ala
 85 90 95
 Gly Leu Phe Met Pro Ile Ser Arg Ala Gly Ile Leu Glu Ile Ile Ser
 100 105 110
 Ile Gln Asp Ser Ile Ala Asp Thr Ala Glu Asp Val Ala Ile Leu Leu
 115 120 125
 Thr Ile Arg Arg Leu Asn Phe Tyr Pro Ser Met Glu Thr Leu Phe Phe
 130 135 140
 Arg Phe Leu Glu Lys Asn Leu Glu Ala Phe Glu Leu Thr Met Thr Leu
 145 150 155 160
 Leu His Glu Phe Asn Gln Leu Leu Glu Ser Ser Phe Gly Gly Arg Lys
 165 170 175
 Ala Asp Lys Ala Arg Leu Leu Val Gly Arg Val Ala Lys Ser Glu His
 180 185 190
 Glu Ser Asp Val Leu Gln Arg Glu Leu Met Gln Ile Phe Phe Ser Asp
 195 200 205
 Asp Phe Ile Ile Pro Glu Lys Glu Phe Tyr Leu Trp Leu Gln Val Ile
 210 215 220
 Arg Arg Thr Ala Gly Ile Ser Asp Ser Ser Glu Lys Leu Ala His Arg
 225 230 235 240
 Ile Asn Met Thr Leu Glu Glu Lys
 245

<210> 684
 <211> 348
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0682

<400> 684
 Thr Ser Lys Gly Leu His Lys Asn Ser Leu Phe Arg Asn Asn Asn Leu
 1 5 10 15
 Pro Lys Arg Ser Cys Lys Arg Leu Met Ala Ser Asn Pro Ile Leu Gln
 20 25 30
 Ile Glu Asp Leu Ser Ile Thr Leu Ala Lys Gln Arg Gln Gln Tyr Pro
 35 40 45
 Ile Val Gln Ser Leu Ser Phe Thr Ile Asn Glu Gly Gln Thr Leu Ala
 50 55 60
 Ile Ile Gly Glu Ser Gly Ser Gly Lys Ser Val Ser Ala His Ala Ile
 65 70 75 80
 Leu Arg Leu Leu Pro Cys Pro Pro Phe Ser Val Ser Gly Gln Val Asn
 85 90 95
 Phe Gln Gly His Asn Leu Leu Thr Ala Ser Arg Ser Ile Gln Lys Lys
 100 105 110
 Ile Ile Gly Thr Glu Ile Ser Met Ile Phe Gln Asn Pro Gln Ala Ser
 115 120 125
 Leu Asn Pro Val Phe Thr Ile Glu Gln Gln Phe Arg Glu Ile Ile His
 130 135 140
 Thr His Leu Ala Leu Thr Ala Glu Val Ala Lys Glu Lys Met Leu Tyr
 145 150 155 160
 Ala Leu Glu Glu Thr Gly Phe His Asp Pro Arg Leu Cys Leu Asn Leu
 165 170 175
 Tyr Pro His Gln Leu Ser Gly Gly Met Leu Gln Arg Ile Cys Ile Ala
 180 185 190
 Met Ala Leu Leu Cys Ser Pro Lys Leu Leu Ile Ala Asp Glu Pro Thr
 195 200 205

Thr Ala Leu Asp Val Ser Val Gln Tyr Gln Ile Leu Gln Leu Leu Lys
 210 215 220
 Thr Leu Gln Lys Lys Thr Gly Met Ser Leu Leu Ile Ile Thr His Asn
 225 230 235 240
 Met Gly Val Val Ala Glu Thr Ala Asp Asp Val Leu Val Leu Tyr Ala
 245 250 255
 Gly Arg Met Val Glu Cys Ala Pro Ala Val Gln Met Phe His Asn Pro
 260 265 270
 Ser His Pro Tyr Thr Arg Asp Leu Leu Ala Ser Arg Pro Ser Leu Gln
 275 280 285
 Pro Gln Gln Leu Gly Ser Phe Asn Pro Ile Pro Gly Gln Pro Pro His
 290 295 300
 Tyr Thr Ala Phe Pro Ser Gly Cys Arg Tyr His Pro Arg Cys Ser Lys
 305 310 315 320
 Ile Leu Asn Arg Cys Ser Ala Glu Ala Pro Glu Ile Tyr Pro Val Arg
 325 330 335
 Glu Gly His Lys Val Arg Cys Trp Leu Tyr Asp Asp
 340 345

<210> 685
 <211> 328
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0683

<400> 685
 Gly Val Gly Cys Met Thr Thr Asn Phe Pro Gln Pro Leu Ile Gln Ala
 1 5 10 15
 Thr Ser Leu Thr Lys His Tyr Tyr Lys Arg Ser Phe Trp Phe Gln Gly
 20 25 30
 Lys Thr Ile Ala Ser Arg Pro Val Asp Asp Val Ser Phe Ser Leu Tyr
 35 40 45
 Ser Arg Arg Ala Val Gly Leu Ile Gly Glu Ser Gly Ser Gly Lys Ser
 50 55 60
 Thr Leu Ala Leu Ala Leu Ala Gly Leu Leu Pro Leu Thr Ser Gly Phe
 65 70 75 80
 Leu Thr Phe Asn Gly Thr Pro Ile Lys Leu His Ser Lys His Gly Arg
 85 90 95
 His Gln Leu Arg Ser Gln Val Arg Leu Val Phe Gln Asn Pro Gln Ala
 100 105 110
 Ser Leu Asn Pro Arg Lys Thr Ile Leu Asp Ser Leu Gly His Ser Leu
 115 120 125
 Leu Tyr His Lys Leu Val Pro Lys Glu Lys Val Leu Ala Thr Val Arg
 130 135 140
 Glu Tyr Leu Glu Leu Val Gly Leu Ser Glu Glu Tyr Phe Tyr Arg Tyr
 145 150 155 160
 Pro His Gln Leu Ser Gly Gly Gln Gln Gln Arg Val Ser Ile Ala Arg
 165 170 175
 Ala Leu Leu Gly Val Pro Gln Leu Ile Ile Cys Asp Glu Ile Val Ser
 180 185 190
 Ala Leu Asp Leu Ser Ile Gln Ala Gln Ile Leu Asn Met Leu Ala Glu
 195 200 205
 Leu Gln Lys Lys Leu Ser Leu Thr Tyr Leu Phe Ile Ser His Asp Leu
 210 215 220
 Ala Val Val Arg Ser Phe Cys Thr Glu Val Phe Ile Met Tyr Lys Gly
 225 230 235 240
 Gln Ile Val Glu Lys Gly Asn Thr Lys Arg Ile Phe Ser Asp Pro Gln
 245 250 255

<210> 687
 <211> 64
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0685

<400> 687
 Phe Pro Gln Ser Gln Tyr Leu Leu Ile Phe Pro Asn Arg Ile Leu Asp
 1 5 10 15
 Leu Gln Ala Phe Glu Ile Leu Asp Val Gln Gly Met Leu Thr Asp Gln
 20 25 30
 Arg Lys His Ile Gln Met Leu His Lys His Asn Ser Ile Glu Ile Phe
 35 40 45
 Leu Ser Asn Met Val Val Glu Val Lys Leu Phe Phe Lys Thr Leu Lys
 50 55 60

<210> 688
 <211> 66
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0686

<400> 688
 Ala Lys Asp Ser Met Met Arg Gly Gly Arg Leu Phe Arg Val Tyr Gln
 1 5 10 15
 Glu Leu Phe Phe Phe Ser Ser Val Tyr Val Cys Glu Gln Arg Arg Pro
 20 25 30
 Arg Lys Leu Tyr Pro Ser Leu Gln His Leu Asn Phe Pro Ile Glu Lys
 35 40 45
 Pro Arg Phe Leu Leu Lys Gly Phe Lys Lys Glu Leu His Phe Tyr Asn
 50 55 60
 His Val
 65

<210> 689
 <211> 238
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0687

<400> 689
 Arg Lys Ile His Lys Asn Leu Arg His Ala Tyr Arg Phe Ser Thr Pro
 1 5 10 15
 Asn Cys Arg Ser Phe Met Gln Lys Leu Val His Asn Ile Trp Lys Lys
 20 25 30
 Phe Tyr Ser Phe Ser Ser Ala Ile Ala Ile Cys Ile Val Leu Ala Ser
 35 40 45
 Phe Leu Ser Leu Lys Ile Val Ser Asn Thr Tyr Lys His Ser Gln Ala
 50 55 60
 Lys Arg Asn Ser Ile Leu Leu Thr Arg Ala Ala Glu Val Ala Val
 65 70 75 80
 Ser Gln Gly Phe Leu Pro Ser Lys Ser Ala Leu Ser Ser Leu Glu Gln
 85 90 95
 Ala Tyr His Leu Gly Gly Glu Ser Met Lys Pro Tyr Ala Gly Phe Leu
 100 105 110

Ala Ser Cys Phe Tyr Ile His Asn Glu Pro Leu Arg Gly Ala Tyr Tyr
115 120 125
Ala Gly Leu Ala Tyr Asn Asn Ser Gln Ala Leu Gln Leu Pro His Pro
130 135 140
Ile Gln Lys Leu Leu Lys Glu Ile Ser Glu Ala Gln Ala Asp Gln Leu
145 150 155 160
Tyr Asp Val Ala Leu Ser Lys Ser Tyr Gln Leu Leu Gln Thr Ala Asn
165 170 175
Ser Ser Pro Glu Tyr Pro Thr Leu Ser Phe Leu Thr Leu Leu Arg Val
180 185 190
Ile Glu Leu Lys Glu Leu Leu His Gln Asp Val Ser Gln Asp Phe Ala
195 200 205
Ala Leu Lys Ser Ser Pro Leu Phe His Gln Phe Glu Arg Met Tyr Ser
210 215 220
Asp Gly Glu Trp Thr Leu Ser Lys Arg Phe Gly Lys Lys Gly
225 230 235

<210> 690

<211> 254

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0688

<400> 690

Ser Leu Met Leu Ile Val Leu Ala Phe Arg Gln Val Phe Phe Ser His
1 5 10 15
Ser Arg Ser Gln Leu Asp Arg Leu Lys Asn Tyr Leu Arg Leu Leu Lys
20 25 30
Gln Asn Phe Ala Ile Thr Leu Pro Lys Glu Arg Thr Ser Lys Gly His
35 40 45
Ser Leu Met Leu Thr Phe Asp Phe Ala Ser Phe Asp Phe Tyr Thr Asn
50 55 60
Ile Phe Pro Phe Leu Glu Gln Lys Ile Pro Ala Val Val Gly Val
65 70 75 80
Ala Ser Arg Tyr Ile Pro Ser Asn Ala Ala Gln Asp Leu His Pro Ser
85 90 95
His Arg Leu Lys Pro Ser Glu Thr Leu Ala Phe Gln Asp Glu Ile Phe
100 105 110
Ser Asn Tyr Met Pro Phe Cys Cys Gln Asn Glu Leu Ile Glu Met Ala
115 120 125
Lys Ser Pro Tyr Ile Gln Leu Ala Ser Ser Gly Phe Ala Ile Arg Asn
130 135 140
Leu Met Asn Asn Pro Pro Tyr Leu Thr Thr Glu Ile Leu Leu Ser Arg
145 150 155 160
His His Ile Glu Thr Ile Thr Gly Ala Lys Pro Leu Ala Phe Leu Phe
165 170 175
Pro Phe Gly Lys Ser Asp Pro Thr Ser Arg Lys Leu Ala Ala Asp His
180 185 190
Tyr Pro Tyr Ser Phe Leu Leu Gly Asn Thr Ile Asn Arg Lys Leu Lys
195 200 205
Thr His Asn Ile Tyr Arg Leu Asp Ile Lys Pro Met Gln Tyr Val Cys
210 215 220
Pro Ser Leu Phe Gln Ser Ser Arg Tyr Leu Lys Asn Trp Ile Lys Glu
225 230 235 240
Lys Ser Lys Gln Leu Tyr Leu Lys Lys Gln Leu Pro Lys Arg
245 250

<210> 691
 <211> 407
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0689

<400> 691
 Ser Val Lys Asn Leu Lys Glu Asp Phe Pro Ile Phe Ala Ala Lys Ala
 1 5 10 15
 Lys Glu Asn Glu Pro Phe Ile Tyr Leu Asp Ser Ala Ala Thr Thr Gln
 20 25 30
 Lys Pro Gln Gln Val Ile Asp Ala Val Ala Asn Phe Tyr Thr Ser Ser
 35 40 45
 Tyr Ala Thr Val Asn Arg Ala Ile Tyr Ser Ser Ser Arg Asn Val Thr
 50 55 60
 Glu Ala Tyr Ala Ala Val Arg Glu Lys Val Arg Lys Trp Val Ser Ala
 65 70 75 80
 Ala Ser Asp Ser Glu Ile Val Phe Thr Arg Gly Thr Thr Ala Gly Leu
 85 90 95
 Asn Leu Leu Ala Ile Ser Val Asn Asp Leu Trp Ile Pro Lys Gly Gly
 100 105 110
 Val Val Leu Val Ser Glu Ala Glu His His Ala Asn Val Leu Ser Trp
 115 120 125
 Glu Ile Ala Cys Arg Arg Arg Gly Ser Leu Val Lys Lys Ile Arg Val
 130 135 140
 His Asp Ser Gly Leu Ile Asp Leu Asp Asp Leu Glu Lys Leu Leu Asn
 145 150 155 160
 Glu Gly Ala Gln Phe Val Ser Ile Pro His Val Ser Asn Val Thr Gly
 165 170 175
 Cys Val Gln Pro Leu Gln Gln Val Ala Glu Leu Val His Arg Tyr Asp
 180 185 190
 Ala Tyr Leu Ala Val Asp Gly Ala Gln Gly Ala Pro His Leu Pro Ile
 195 200 205
 Asp Val Gln Leu Trp Asp Val Asp Phe Tyr Val Phe Ser Ser His Lys
 210 215 220
 Ile Tyr Gly Pro Thr Gly Ile Gly Val Leu Tyr Gly Lys Lys Asp Leu
 225 230 235 240
 Leu Asp Gln Leu Pro Pro Val Glu Gly Gly Gly Asp Met Val Ala Ile
 245 250 255
 Tyr Asp His Gln Asn Pro Glu Tyr Leu Pro Ala Pro Met Lys Phe Glu
 260 265 270
 Ala Gly Thr Pro Asn Ile Ala Gly Val Leu Gly Leu Gly Ala Ala Leu
 275 280 285
 Asp Tyr Leu Asp Gly Leu Ser Ala Lys Phe Ile Tyr Asp Lys Glu Ile
 290 295 300
 Ala Leu Thr Thr Tyr Leu His Lys Glu Leu Leu Glu Ile Pro Gly Val
 305 310 315 320
 Glu Ile Leu Gly Pro Ser Ile Glu Glu Pro Arg Gly Ala Leu Ile Gly
 325 330 335
 Met Thr Ile Asp Gly Ala His Pro Leu Asp Leu Gly Phe Leu Leu Asp
 340 345 350
 Leu Arg Gly Ile Ala Val Arg Thr Gly His Gln Cys Ala Gln Pro Ala
 355 360 365
 Met Glu Arg Trp Asn Val Gly His Val Leu Arg Val Ser Leu Gly Ile
 370 375 380
 Tyr Asn Asp Glu Asp Asp Ile Asp Gln Phe Ile Leu Val Leu Gln Asp
 385 390 395 400
 Ser Leu Asp Lys Ile Arg Arg
 405

<210> 692
 <211> 423
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0690

<400> 692
 Leu Ser Val Leu Arg Gly Asp Lys Val Leu Val Ser Ile Glu Thr Phe
 1 5 10 15
 Ser Ser Ile Ala Ser Gly Ser Pro Val Gln Lys Ala Ala Glu Ala Cys
 20 25 30
 Tyr Thr Gln Tyr Ser Lys Gln Pro Ser Ser Lys Glu Val Leu Ser Ser
 35 40 45
 Phe Ser Trp Ile Gln Glu Leu Ser Leu Phe Pro Asp Arg Tyr Asn Leu
 50 55 60
 Ala Thr Gly Ala Ser Glu Leu Ile Lys Gln His Trp Leu His Asn Asn
 65 70 75 80
 His Ser Leu Ala Phe Glu Cys Ile Leu Ile Asn Gly Lys Tyr Glu Pro
 85 90 95
 Ser Leu Ser Gln Leu Pro Glu Gly Val Ile Val Cys Gly Ile Asp Glu
 100 105 110
 Ala Arg Gly Ser Leu Ser Ser Phe Met Gln Gly Phe Asp Val Asn Lys
 115 120 125
 His Pro Leu Ala Phe Leu Asn Ala Val Cys Ser Glu Asp Arg Gly Val
 130 135 140
 Val Ile Tyr Ile Pro Glu Glu Met Gln Thr Ser Asp Pro Ile Phe Val
 145 150 155 160
 Arg His Ile Ser Phe Pro Thr Val Ser Asp His Asp Val Ile Phe Ser
 165 170 175
 Pro Arg Ile Val Val Ile Leu Gly Gln Arg Ala Ser Ala Gln Ile Gln
 180 185 190
 Ile Ser His Asp Val Asp Leu Glu Met Val Gly Ser Ser Lys Thr Ile
 195 200 205
 Val Asn Gly Val Thr Glu Leu Phe Val Gly Glu Gly Ala Asp Leu Thr
 210 215 220
 Val Phe Met Val Pro Gly Tyr Ser Glu Glu Asp Thr Leu Ser Trp Ser
 225 230 235 240
 Thr Ile Ala Thr Val Glu Lys Asp Ala Ile Cys Arg Met Thr Gln Asn
 245 250 255
 Leu Leu Glu Ser Cys Gln Gly Phe Gly Trp Phe Asp Asn Thr Ser Tyr
 260 265 270
 Ile Val Gly Lys Lys Gly His Ala Glu Ser Leu Val Leu Val Gln Ser
 275 280 285
 Pro Arg Lys Thr Trp Val Asn Asn Leu Met Ser His Asp Ala Glu Glu
 290 295 300
 Thr Val Ser Arg Gln Asn Ile Lys Ser Ile Leu Tyr Ser Gly His Phe
 305 310 315 320
 Leu Phe Glu Gly Thr Ile Ser Ile Ser Ser Gln Gly Asp Leu Ser Asp
 325 330 335
 Ala Asn Gln Lys His Asp Thr Leu Leu Leu Ser Ser Glu Ala Arg Val
 340 345 350
 Ser Thr Phe Pro Arg Leu Glu Ile Glu Thr Asp Glu Val Lys Ala Ser
 355 360 365
 His Gly Ala Thr Val Gly Pro Leu Asp Pro Gln Gln Ile Phe Tyr Met
 370 375 380
 Arg Ser Arg Gly Met Thr Glu Ala Glu Ala Gln Glu Lys Leu Ile His
 385 390 395 400
 Gly Phe Leu Lys Gln Gly Leu Val Ser Asp Thr Phe Leu Gly Ser Ser
 405 410 415

Phe Gln Leu Asn Gln Thr Ser
420

<210> 693
<211> 261
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0691

<400> 693
Arg Gly Leu Gly Ser Met Leu Lys Ile Lys His Leu His Ala Ser Cys
1 5 10 15
Asn Asp Val Lys Ile Leu Asp Asp Phe Asn Leu Asn Ile Gln Pro Gly
20 25 30
Thr Met His Val Ile Met Gly Pro Asn Gly Ala Gly Lys Ser Thr Leu
35 40 45
Ala Lys Ile Leu Ala Gly Asp Glu Ser Val Leu Val Ser Ser Gly Glu
50 55 60
Ile Ala Leu Gln Glu Gln Asn Leu Leu Ser Met Leu Pro Glu Glu Arg
65 70 75 80
Ser Arg Ala Gly Leu Phe Val Gly Phe Gln Met Pro Pro Glu Ile Pro
85 90 95
Gly Val Asn Asn Lys Met Phe Leu Arg Asp Ala Tyr Asn Ala Arg Arg
100 105 110
Arg Ala Asn Gln Glu Gly Asp Ile Ser Ile Asp Glu Phe Asn Thr Leu
115 120 125
Leu Ser Thr Val Leu Glu Thr Tyr Glu Tyr Asn Ala Thr Thr Asp Leu
130 135 140
Phe Leu Asp Arg Asn Val Asn Glu Gly Phe Ser Gly Gly Glu Arg Lys
145 150 155 160
Arg Asn Glu Ile Cys Gln Met Leu Val Leu Glu Pro Glu Met Val Leu
165 170 175
Leu Asp Glu Pro Asp Ser Gly Leu Asp Val Asp Ala Leu Arg Leu Ile
180 185 190
Cys Arg Val Leu Glu Lys Tyr Arg Glu Leu His Pro Thr Ser Ser Leu
195 200 205
Cys Ile Val Thr His Asn Pro Lys Leu Gly Asn Leu Ile Arg Pro Asp
210 215 220
Val Val His Leu Leu Leu Asp Gly Arg Val Ala Leu Ser Gly Asp Val
225 230 235 240
Ser Leu Met His Glu Leu Glu Ala Lys Ser Tyr Gln Glu Val Thr Lys
245 250 255
Arg Val Ala Trp Arg
260

<210> 694
<211> 495
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0692

<400> 694
Ile Gln Glu Phe Cys Ala Thr Gly Leu Lys Val Met Gly Glu Ser Val
1 5 10 15
Lys Val Phe Leu Glu Glu Arg Glu Asp Tyr Pro Tyr Gly Phe Val Thr
20 25 30



<210> 695
 <211> 351
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0693

<400> 695
 Leu Arg Ser Thr Asn His Val Leu Gly Glu Ile Ser Met Glu Glu Ala
 1 5 10 15
 Ala Lys His Leu Ala Lys Glu Phe Leu Cys Ser Gly Ile Asn Leu Phe
 20 25 30
 Leu Ser Gly Glu Tyr Glu Gln Ala Glu Lys Arg Leu Lys Glu Thr Leu
 35 40 45
 Glu Leu Asp Ser Thr Ala Ala Leu Ala Tyr Cys Tyr Leu Gly Ile Ile
 50 55 60
 Ala Leu Glu Thr Gly Arg Val Ser Glu Ala Leu Asn Trp Cys Ser Lys
 65 70 75 80
 Gly Leu Ala Ser Glu Pro Gly Asp Ser Tyr Leu Arg Tyr Cys Tyr Gly
 85 90 95
 Val Ala Leu Asp Arg Gly Asn Gln Tyr Glu Ala Ala Ile Glu Gln Tyr
 100 105 110
 Ser Ala Tyr Val Ala Leu His Pro Asp Asp Val Glu Cys Trp Phe Ser
 115 120 125
 Leu Gly Ser Val Tyr His Arg Leu Lys Arg Leu Gln Glu Ala Leu Asp
 130 135 140
 Cys Phe Asp Lys Ile Leu Ala Leu Asp Pro Trp Asn Pro Gln Ser Leu
 145 150 155 160
 Tyr Asn Lys Ala Val Ile Leu Ser Glu Met Asp Asp Glu Ala Glu Ser
 165 170 175
 Ile Arg Leu Leu Glu Val Ala Val Ala Lys Asn Pro Leu Tyr Trp Lys
 180 185 190
 Ala Trp Val Lys Leu Gly Phe Leu Leu Ser Arg Ser Lys Arg Trp Asp
 195 200 205
 Lys Ala Thr Glu Ala Tyr Glu Arg Val Val Gln Leu Arg Pro Asp Leu
 210 215 220
 Ser Asp Gly His Tyr Asn Leu Gly Leu Cys Tyr Leu Thr Leu Asp Lys
 225 230 235 240
 Thr Arg Leu Ala Leu Lys Ala Phe Gln Glu Ala Leu Phe Leu Asn Ala
 245 250 255
 Glu Asp Ala Asp Ala His Phe Tyr Val Gly Leu Ala His Leu Asp Leu
 260 265 270
 Lys Gln Met Arg Glu Ala Tyr Glu Ala Phe Asn Ser Ala Leu Ser Ile
 275 280 285
 Asn Leu Glu His Glu Arg Ala His Tyr Leu Leu Gly Tyr Leu His His
 290 295 300
 Met Gln Gly Glu Thr Asp Lys Ala Thr Lys Glu Leu Leu Phe Leu Gln
 305 310 315 320
 Lys Lys Asp Ser Thr Phe Ala Pro Leu Leu Gln Lys Thr Val Val Ser
 325 330 335
 Asp Pro Ser Ser Met Gln Phe Glu Arg Arg Leu Asp Thr Ile Ser
 340 345 350

<210> 696
 <211> 1102
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0694

<400> 696

Phe	Ser	Asp	Glu	Ser	Glu	Ala	His	Asn	Ile	His	Ser	Met	Lys	Arg	Pro
1				5					10					15	
Lys	Lys	Phe	Pro	Ile	Tyr	Leu	Ser	Ile	Ala	Gln	Lys	Thr	Asn	Arg	Leu
			20					25					30		
Leu	Ser	Gly	Ile	Val	Ile	Ala	Phe	Ala	Val	Ile	Ala	Leu	Arg	Leu	Trp
		35					40					45			
Tyr	Leu	Ala	Val	Val	Glu	His	Glu	Gln	Lys	Leu	Glu	Glu	Ala	Tyr	Lys
		50				55					60				
Pro	Gln	Ile	Arg	Val	Leu	Pro	Gln	Tyr	Val	Glu	Arg	Ala	Thr	Ile	Cys
65					70					75				80	
Asp	Arg	Phe	Gly	Lys	Thr	Leu	Ala	Val	Asn	Gln	Leu	Gln	Tyr	Asp	Val
				85					90					95	
Ser	Val	Ala	Tyr	Gly	Ala	Ile	Arg	Asp	Leu	Pro	Thr	Arg	Ala	Trp	Arg
			100					105					110		
Val	Asp	Glu	His	Gly	His	Lys	Gln	Leu	Ile	Pro	Val	Arg	Lys	His	Tyr
		115					120					125			
Ile	Met	Cys	Leu	Ser	Glu	Leu	Leu	Ser	Gln	Glu	Leu	His	Leu	Asp	Arg
		130				135					140				
Glu	Ala	Ile	Glu	Asp	Ala	Ile	His	Ala	Lys	Ala	Ser	Val	Leu	Gly	Ser
145					150					155				160	
Val	Pro	Tyr	Leu	Val	Ala	Ala	Asn	Val	Ser	Glu	Arg	Thr	Tyr	Leu	Lys
				165					170					175	
Leu	Lys	Met	Leu	Ser	Lys	Asp	Trp	Pro	Gly	Leu	His	Val	Glu	Ala	Val
		180						185					190		
Val	Arg	Arg	His	Tyr	Pro	Gln	Glu	Ser	Val	Ala	Ser	Asp	Ile	Leu	Gly
		195					200					205			
Tyr	Val	Gly	Pro	Ile	Ser	Leu	Gln	Glu	Tyr	Lys	Arg	Val	Thr	Gln	Glu
		210				215					220				
Leu	Ser	Gln	Leu	Arg	Glu	Cys	Val	Arg	Ala	Tyr	Glu	Glu	Gly	Glu	Asp
225					230					235				240	
Pro	Lys	Leu	Pro	Glu	Gly	Leu	Ala	Ser	Ile	Asp	Gln	Val	Arg	Ala	Leu
			245						250					255	
Leu	Glu	Ser	Val	Glu	Ser	Asn	Ala	Tyr	Ser	Leu	Asn	Ala	Leu	Val	Gly
		260						265					270		
Lys	Met	Gly	Val	Glu	Ala	Cys	Trp	Asp	Ser	Lys	Leu	Arg	Gly	Lys	Ile
		275					280					285			
Gly	Lys	Lys	Pro	Ile	Leu	Val	Asp	Arg	Arg	Gly	Asn	Phe	Ile	Gln	Glu
		290				295					300				
Met	Glu	Gly	Ala	Val	Pro	Glu	Ala	Pro	Gly	Thr	Lys	Leu	Gln	Leu	Thr
305					310					315				320	
Leu	Ser	Ala	Glu	Leu	Gln	Ala	Tyr	Ala	Asp	Ala	Leu	Leu	Leu	Glu	Tyr
			325						330					335	
Glu	Lys	Thr	Glu	Thr	Phe	Arg	Ser	Ala	Lys	Ser	Leu	Lys	Lys	Arg	Glu
			340					345					350		
Lys	Leu	Pro	Pro	Leu	Phe	Pro	Trp	Ile	Lys	Gly	Gly	Ala	Ile	Ile	Ala
		355					360					365			
Leu	Asp	Pro	Asn	Asn	Gly	Glu	Ile	Leu	Ala	Met	Ala	Ser	Ser	Pro	Arg
		370				375					380				
Tyr	Arg	Asn	Asn	Asp	Phe	Val	Asn	Ala	Lys	Val	Ala	Glu	Asp	Ser	Lys
385					390					395				400	
Ala	Val	Arg	Ser	Ser	Ile	Tyr	Arg	Trp	Leu	Glu	Asn	Lys	Glu	His	Ile
				405					410					415	
Ala	Glu	Ile	Tyr	Asp	Arg	Lys	Val	Pro	Leu	Ile	Arg	Glu	Arg	Arg	Asn
			420					425				430			
Pro	Leu	Thr	Gly	Leu	Cys	Tyr	Glu	Glu	Ile	Leu	Pro	Leu	Thr	Phe	Asp
			435					440				445			
Cys	Phe	Leu	Asp	Phe	Leu	Phe	Pro	Glu	Asn	Ser	Val	Ile	Lys	Leu	Gln
		450				455					460				
Leu	Lys	Arg	Asn	Ser	Phe	Val	Gly	Gln	Ala	Ile	Glu	Val	Gln	Asn	Leu
465					470					475				480	

Leu Gly Glu Trp Glu Gly Glu His Val Ser Tyr Leu Ser Ser Lys Lys
 965 970 975
 Lys Arg Thr Ile Phe Met Pro Asp Ala Val Val Glu Val Leu Lys Thr
 980 985 990
 Gly Met Arg Asn Val Ile Trp Gly Gln Tyr Gly Thr Ala Arg Ala Ile
 995 1000 1005
 Gln Ser Gln Phe Pro Pro Gln Leu Leu Ser Arg Ile Ile Gly Lys Thr
 1010 1015 1020
 Ser Thr Ala Glu Ser Ile Met Arg Val Gly Leu Asp Arg Glu Tyr Gly
 1025 1030 1035 1040
 Thr Met Lys Met Lys Asp Ile Trp Phe Ala Ala Val Gly Phe Ser Asp
 1045 1050 1055
 Gln Asp Leu Ser Leu Pro Thr Ile Val Val Ile Val Tyr Leu Arg Leu
 1060 1065 1070
 Gly Glu Phe Gly Arg Asp Ala Ala Pro Met Ala Val Lys Met Ile Asp
 1075 1080 1085
 Met Trp Glu Lys Ile Gln Gln Arg Glu Ser Phe Leu Arg Gly
 1090 1095 1100

<210> 697
 <211> 394
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0695

<400> 697
 Ser Leu Glu Val Ser Met Lys Lys Leu Leu Lys Ser Ala Leu Leu Ser
 1 5 10 15
 Ala Ala Phe Ala Gly Ser Val Gly Ser Leu Gln Ala Leu Pro Val Gly
 20 25 30
 Asn Pro Ser Asp Pro Ser Leu Leu Ile Asp Gly Thr Ile Trp Glu Gly
 35 40 45
 Ala Ala Gly Asp Pro Cys Asp Pro Cys Ala Thr Trp Cys Asp Ala Ile
 50 55 60
 Ser Leu Arg Ala Gly Phe Tyr Gly Asp Tyr Val Phe Asp Arg Ile Leu
 65 70 75 80
 Lys Val Asp Ala Pro Lys Thr Phe Ser Met Gly Ala Lys Pro Thr Gly
 85 90 95
 Ser Ala Ala Ala Asn Tyr Thr Thr Ala Val Asp Arg Pro Asn Pro Ala
 100 105 110
 Tyr Asn Lys His Leu His Asp Ala Glu Trp Phe Thr Asn Ala Gly Phe
 115 120 125
 Ile Ala Leu Asn Ile Trp Asp Arg Phe Asp Val Phe Cys Thr Leu Gly
 130 135 140
 Ala Ser Asn Gly Tyr Ile Arg Gly Asn Ser Thr Ala Phe Asn Leu Val
 145 150 155 160
 Gly Leu Phe Gly Val Lys Gly Thr Thr Val Asn Ala Asn Glu Leu Pro
 165 170 175
 Asn Val Ser Leu Ser Asn Gly Val Val Glu Leu Tyr Thr Asp Thr Ser
 180 185 190
 Phe Ser Trp Ser Val Gly Ala Arg Gly Ala Leu Trp Glu Cys Gly Cys
 195 200 205
 Ala Thr Leu Gly Ala Glu Phe Gln Tyr Ala Gln Ser Lys Pro Lys Val
 210 215 220
 Glu Glu Leu Asn Val Ile Cys Asn Val Ser Gln Phe Ser Val Asn Lys
 225 230 235 240
 Pro Lys Gly Tyr Lys Gly Val Ala Phe Pro Leu Pro Thr Asp Ala Gly
 245 250 255

<400> 700

Glu	Pro	Asn	Lys	Asn	Met	Ala	Lys	Gln	Thr	Arg	Arg	Val	Leu	Phe	Lys
1				5					10					15	
Ile	Ser	Gly	Glu	Ala	Leu	Ser	Lys	Asp	Ser	Ser	Asn	Arg	Ile	Asp	Glu
			20					25					30		
Met	Arg	Leu	Ser	Arg	Leu	Val	Ser	Glu	Leu	Arg	Ala	Val	Arg	Asn	Asn
		35					40					45			
Asp	Ile	Glu	Ile	Ala	Leu	Val	Ile	Gly	Gly	Gly	Asn	Ile	Leu	Arg	Gly
	50					55					60				
Leu	Ala	Glu	Gln	Lys	Glu	Leu	Gln	Ile	Asn	Arg	Val	Ser	Ala	Asp	Gln
65					70					75				80	
Met	Gly	Met	Leu	Ala	Thr	Leu	Ile	Asn	Gly	Met	Ala	Val	Ala	Asp	Ala
			85						90					95	
Leu	Lys	Ala	Glu	Asp	Ile	Pro	Cys	Leu	Leu	Thr	Ser	Thr	Leu	Ser	Cys
			100					105					110		
Pro	Gln	Leu	Ala	Asp	Leu	Tyr	Thr	Pro	Gln	Lys	Ser	Ile	Glu	Ala	Leu
			115				120						125		
Asp	Gln	Gly	Lys	Ile	Leu	Ile	Cys	Thr	Thr	Gly	Ala	Gly	Ser	Pro	Tyr
	130					135					140				
Leu	Thr	Thr	Asp	Thr	Gly	Ala	Ala	Leu	Arg	Ala	Cys	Glu	Leu	Asn	Val
145					150					155				160	
Asp	Val	Leu	Ile	Lys	Ala	Thr	Met	His	Val	Asp	Gly	Val	Tyr	Asp	Lys
				165					170					175	
Asp	Pro	Arg	Leu	Phe	Pro	Asp	Ala	Val	Lys	Tyr	Asp	Phe	Val	Ser	Tyr
			180					185					190		
Lys	Asp	Phe	Leu	Ser	Asn	Gln	Leu	Gly	Val	Met	Asp	Ala	Ser	Ala	Ile
		195					200					205			
Ser	Leu	Cys	Met	Asp	Ser	His	Ile	Pro	Ile	Arg	Val	Phe	Ser	Phe	Leu
	210					215					220				
Gln	His	Ser	Leu	Glu	Lys	Ala	Leu	Phe	Asp	Pro	Thr	Ile	Gly	Thr	Leu
225					230					235				240	
Val	Ser	Glu	Asp	Val	Asn	His	Val	Cys	Ser	Pro	Arg	His			
				245					250						

<210> 701

<211> 181

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0699

<400> 701

Thr	Met	Ser	Val	Leu	Gln	Asp	Thr	Glu	Lys	Lys	Met	Ala	Ala	Ala	Leu
1				5					10					15	
Asp	Phe	Phe	His	Lys	Glu	Val	Lys	Ser	Phe	Arg	Thr	Gly	Lys	Ala	His
			20					25					30		
Pro	Ala	Leu	Val	Glu	Thr	Val	Val	Val	Asp	Val	Tyr	Gly	Thr	Thr	Met
		35					40					45			
Arg	Leu	Ser	Asp	Ile	Ala	Ser	Ile	Ser	Val	Ala	Asp	Leu	Arg	Gln	Leu
	50					55					60				
Val	Ile	Ser	Pro	Tyr	Asp	Gly	Asn	Asn	Ala	Ser	Ala	Ile	Ala	Lys	Gly
65					70					75				80	
Ile	Ile	Ala	Ala	Asn	Leu	Asn	Leu	Gln	Pro	Glu	Val	Glu	Gly	Ser	Ile
				85					90					95	
Ile	Arg	Ile	Lys	Val	Pro	Glu	Pro	Thr	Ala	Asp	Tyr	Arg	Gln	Glu	Met
			100					105					110		
Ile	Lys	Gln	Leu	Arg	Arg	Lys	Cys	Glu	Glu	Ala	Lys	Ile	Asn	Val	Arg
		115					120					125			
Asn	Ile	Arg	Arg	Glu	Ala	Asn	Asp	Lys	Leu	Lys	Lys	Asp	Ser	Ala	Leu
	130						135					140			

Thr Glu Asp Val Val Lys Gly Asn Glu Lys Lys Ile Gln Glu Leu Thr
 145 150 155 160
 Asp Lys Phe Cys Lys Gln Leu Asp Glu Leu Thr Lys Gln Lys Glu Ala
 165 170 175
 Glu Ile Ala Ser Ile
 180

<210> 702
 <211> 172
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0700

<400> 702
 Leu Met Val His Ser Pro Thr His Gln Cys Tyr His Cys Gln Gln Pro
 1 5 10 15
 Ala Thr Ile Cys Tyr Thr Glu Ile Asp Lys Asp Lys Val Ile Arg Ser
 20 25 30
 Tyr Val Cys Ala Thr Cys Pro Cys Ser His Tyr Tyr Asn Asn Glu
 35 40 45
 His Leu Ser Leu Ser Lys Gly Val Gly Val Leu Thr Leu Glu Cys Gly
 50 55 60
 Asn Cys Lys Thr Val Trp His Ser Lys Gln Asp Asp Glu Gln Leu Leu
 65 70 75 80
 Gly Cys His Gln Cys Tyr Thr Asn Phe Lys Asn Gln Ile Thr Ser Lys
 85 90 95
 Leu Lys Ser Glu Arg Val Val Ser Ser Phe Thr Met Glu Lys Gly
 100 105 110
 Gln Gly Ser Leu His Ile Gly Arg Ala Pro Gly Glu Ala Ser Asn Thr
 115 120 125
 Asn Pro Leu Leu Lys Leu Ile Ala Leu Asn Glu Ala Leu Gln Asp Thr
 130 135 140
 Leu Glu Arg Glu Asp Tyr Glu Gln Ala Ala Val Ile Arg Asp Gln Ile
 145 150 155 160
 Asn His Leu Lys Thr Lys Asn Pro Asp Asp Pro Ser
 165 170

<210> 703
 <211> 363
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0701

<400> 703
 Lys Pro Lys Ile Gln Met Thr Leu Pro Asn Asp Leu Leu Glu Thr Leu
 1 5 10 15
 Val Lys Arg Lys Glu Ser Pro Gln Ala Asn Lys Val Trp Pro Val Thr
 20 25 30
 Thr Phe Ser Leu Ala Arg Asn Leu Ser Val Ser Lys Phe Leu Pro Cys
 35 40 45
 Leu Ser Lys Glu Gln Lys Leu Glu Ile Leu Gln Phe Ile Thr Ser His
 50 55 60
 Phe Asn His Ile Glu Gly Phe Gly Glu Phe Ile Val Leu Pro Leu Lys
 65 70 75 80
 Asp Thr Pro Leu Trp Gln Lys Glu Phe Leu Leu Glu His Phe Leu Leu
 85 90 95

Pro Tyr Asp Leu Val Gly Asn Pro Glu Gly Glu Ala Leu Val Val Ser
 100 105 110
 Arg Ser Gly Asp Phe Leu Ala Ala Ile Asn Phe Gln Asp His Leu Val
 115 120 125
 Leu His Gly Ile Asp Phe Gln Gly Asn Val Glu Lys Thr Leu Asp Gln
 130 135 140
 Leu Val Gln Leu Asp Ser Tyr Leu His Ser Lys Leu Ser Phe Ala Phe
 145 150 155 160
 Ser Ser Glu Phe Gly Phe Leu Thr Thr Asn Pro Lys Asn Cys Gly Thr
 165 170 175
 Gly Leu Lys Ser Gln Cys Phe Leu His Ile Pro Ala Leu Leu Tyr Ser
 180 185 190
 Lys Glu Phe Thr Asn Leu Ile Asp Glu Glu Val Glu Ile Ile Thr Ser
 195 200 205
 Ser Leu Leu Leu Gly Val Thr Gly Phe Pro Gly Asn Ile Val Val Leu
 210 215 220
 Ser Asn Arg Cys Ser Leu Gly Leu Thr Glu Glu Leu Leu Leu Ser Ser
 225 230 235 240
 Leu Arg Ile Thr Ala Ser Lys Leu Ser Val Ala Glu Val Ala Ala Lys
 245 250 255
 Lys Arg Leu Ser Glu Glu Asn Ser Gly Asp Leu Lys Asn Leu Ile Leu
 260 265 270
 Arg Ser Leu Gly Leu Leu Thr His Ser Cys Gln Leu Glu Leu Lys Glu
 275 280 285
 Thr Leu Asp Ala Leu Ser Trp Ile Gln Leu Gly Ile Asp Leu Gly Leu
 290 295 300
 Ile Lys Val Thr Glu Asn His Pro Leu Trp Asn Pro Leu Phe Trp Gln
 305 310 315 320
 Ile Arg Arg Ala His Leu Ala Leu Gln Lys Gln Ala Glu Asp Ser Arg
 325 330 335
 Asp Leu Gln Lys Asp Thr Ile Ser His Leu Arg Ala Ser Val Leu Lys
 340 345 350
 Glu Leu Thr Lys Gly Leu Ser Pro Glu Ser Phe
 355 360

<210> 704
 <211> 924
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0702

<400> 704
 Leu Lys Lys Asn Pro Val Lys Thr Val Ile Leu Asn Ile Gly Arg Lys
 1 5 10 15
 Ile Leu Gln Gly Ile Lys Lys Lys Lys Lys Lys Ile Gly Ile Leu Ser
 20 25 30
 Gly Leu Phe Phe Leu Asp Leu Val Leu Leu Gly Val Ser Ser Gln Arg
 35 40 45
 Pro Thr Glu Thr Ser Ala Asn Val Lys His Asn Leu Arg Asp Glu Lys
 50 55 60
 Leu Ala Ala Cys Pro Lys Asn Ser Ala Ala Ser Leu Ser Ala Lys Lys
 65 70 75 80
 Ser His Thr Lys Lys Thr Thr Pro Gly Ser Ile Pro Ser Lys Val Phe
 85 90 95
 Ser Lys Phe Asp Ala Thr Gln Asp Lys Thr Phe Gln Lys Thr Ser Gly
 100 105 110
 Ser Ala Phe Pro Ala Lys Pro Thr Thr Leu Lys Glu Leu Glu Glu Arg
 115 120 125

Thr Ser Leu Glu Lys Ser Trp Asp Phe Gly Val Gln Trp Val Ala Leu
 610 615 620
 Gly Asp Glu Gln Ser Lys Val Ala Tyr Ala Ser Gly Leu Leu Asn Asn
 625 630 635 640
 Thr Gly Ile Ala Thr Pro Thr Lys Ala Thr Val Pro Pro Gly Thr Pro
 645 650 655
 Asn Pro Gly Ser Ile Pro Leu Pro Thr Pro Gly Gln Leu Thr Gly Phe
 660 665 670
 Ser Asp Met Leu Asn Ser Ser Ser Ala Phe Gly Leu Gly Ile Ile Gly
 675 680 685
 Asn Val Leu Ser His Lys Gly Lys Ser Phe Leu Thr Leu Gly Gly Leu
 690 695 700
 Leu Ser Ala Leu Asp Gln Asp Gly Asp Thr Val Ile Val Leu Asn Pro
 705 710 715 720
 Arg Ile Met Ala Gln Asp Thr Gln Gln Ala Ser Phe Phe Val Gly Gln
 725 730 735
 Thr Val Pro Tyr Gln Thr Thr Asn Thr Ile Ile Gln Glu Thr Gly Thr
 740 745 750
 Val Thr Gln Asn Ile Asp Tyr Glu Asp Ile Gly Val Asn Leu Val Val
 755 760 765
 Thr Ser Thr Val Ala Pro Asn Asn Val Val Thr Leu Gln Ile Glu Gln
 770 775 780
 Thr Ile Ser Glu Leu His Ser Ala Ser Gly Ser Leu Thr Pro Val Thr
 785 790 795 800
 Asp Lys Thr Tyr Ala Ala Thr Arg Leu Gln Ile Pro Asp Gly Cys Phe
 805 810 815
 Leu Val Met Ser Gly His Ile Arg Asp Lys Thr Thr Lys Val Val Ser
 820 825 830
 Gly Val Pro Leu Leu Asn Ser Ile Pro Leu Ile Arg Gly Leu Phe Ser
 835 840 845
 Arg Thr Ile Asp Gln Arg Gln Lys Arg Asn Ile Met Met Phe Ile Lys
 850 855 860
 Pro Lys Val Ile Ser Ser Phe Glu Glu Gly Thr Arg Val Thr Asn Lys
 865 870 875 880
 Glu Gly Tyr Arg Tyr Asn Trp Glu Ala Asp Glu Gly Ser Met Gln Val
 885 890 895
 Ala Pro Arg His Ala Pro Glu Cys Gln Gly Pro Pro Ser Leu Gln Ala
 900 905 910
 Glu Ser Asp Phe Lys Ile Ile Glu Ile Glu Ala Gln
 915 920

<210> 705

<211> 507

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0703

<400> 705

Arg Lys Ile Gly Phe Met Asp Cys Arg Gly Gly Ile Pro Leu Pro Glu
 1 5 10 15
 Pro Gln Val Ile Gly Gly Tyr His Val Lys Lys Ile Leu Ser Lys Lys
 20 25 30
 Leu Arg Ser Arg Val Val His Gly Leu His Pro Glu Thr Arg His Ser
 35 40 45
 Thr Val Ile Lys Val Phe Ser Pro Ser Pro Ser Phe Thr Ser Arg Ser
 50 55 60
 Val Tyr Asn Phe Leu Lys Glu Ala Gln Ser Leu His Gln Ile Thr His
 65 70 75 80

Pro Asn Ile Val Lys Phe His Arg Tyr Gly Lys Trp Gln Asp Cys Leu
 85 90 95
 Tyr Ile Ala Met Glu Tyr Ile Glu Gly Ile Ser Leu Arg Glu Tyr Ile
 100 105 110
 Leu Ala Gln Phe Ile Ser Leu Pro Gln Ala Ile Asp Ile Ile Phe Asp
 115 120 125
 Ile Ala Gln Ala Leu Glu His Leu His Ser Arg Asn Ile Leu His Lys
 130 135 140
 Asp Ile Lys Pro Glu Asn Ile Leu Ile Thr Pro Gln Gly Lys Ile Lys
 145 150 155 160
 Leu Ile Asp Phe Gly Leu Ala Asp Trp Asp Thr Glu Ile Gln Arg Ala
 165 170 175
 His Pro Ser Val Ile Gly Thr Pro Tyr Tyr Met Ser Pro Glu Gln Arg
 180 185 190
 Gln Gly Glu Ser His Ser Pro Ala Ser Asp Ile Tyr Ala Leu Gly Leu
 195 200 205
 Leu Ala Tyr Glu Leu Ile Leu Gly His Leu Ser Leu Gly Arg Val Phe
 210 215 220
 Leu Ser Leu Val Pro Glu Arg Ile Ser Lys Ile Leu Ala Lys Ala Leu
 225 230 235 240
 Gln Pro Ser Pro Asn Asn Arg Tyr Ser Ser Thr Arg Glu Phe Ile Gln
 245 250 255
 Asp Ile His His Tyr Arg Met Ser Gly Asp Met Gln Glu Asp Leu Arg
 260 265 270
 Ile Lys Asp His Thr Val Ala Leu Tyr Glu Gln Leu Gln Thr Gln Arg
 275 280 285
 Phe Trp Leu Ala Pro Glu Thr Leu Arg Phe Pro Asp Phe Ile Ser Gly
 290 295 300
 Val Leu Tyr His Gln Gly Tyr Pro Leu Tyr Pro His Ala Tyr Asp Thr
 305 310 315 320
 Leu Leu Glu Gly Asp Val Phe Asn Leu Trp Leu Gly Tyr Ser Pro Ile
 325 330 335
 Ser Asn Ala Thr Ile Ala Leu Ser Val Val Lys Ser Leu Val Cys Gln
 340 345 350
 Gln Asp Leu Gln Arg Pro Leu Leu Asp Arg Val Cys Glu Ile Asn Glu
 355 360 365
 Cys Leu Ile Arg Met Lys Ile Pro Ile Asp Glu Met Gly Ile Ser Ile
 370 375 380
 Leu Cys Leu Glu Ile Ser Lys Glu Asn Lys Glu Leu Ser Trp Ile Ala
 385 390 395 400
 Cys Gly Lys Thr Val Phe Trp Ile Lys Arg Gln Gly Arg Val Val Gln
 405 410 415
 Asp Phe Glu Ser Phe Ser Pro Gly Leu Gly Lys Ile Thr Ser Leu Gln
 420 425 430
 Ile Arg Glu Thr Lys Val Ala Trp Glu Ile Gly Asp Glu Ala Val Val
 435 440 445
 Cys Thr Leu Glu Leu Glu Glu Ser Val Ala Ser Leu Lys Thr Leu Ser
 450 455 460
 Leu Ala Glu Leu Gln Asp Arg Arg Gln Lys Ala Ile Phe Cys Pro Ile
 465 470 475 480
 Glu Ser Ile His Gly Gly Ile Gln Ser Arg Gln His Gly Ser Asn Ser
 485 490 495
 Pro Ser Thr Leu Ile Ser Leu Lys Arg Ile Arg
 500 505

<210> 706

<211> 374

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0704

<400> 706

Arg Tyr Phe Met Ala Val Ala Ala Asp Ser Ser Ala Ser Trp Leu Lys
1 5 10 15
Ser Arg Asn Asn Phe Leu Ser Ser Leu Gly Lys Thr Glu Glu Gln Val
20 25 30
Ala Ala Pro Glu Phe Pro Lys Glu Leu Cys Gln His Lys Ile Arg Glu
35 40 45
Lys Phe Arg Leu Glu Asp Val Gln Val Ser Ile Lys Phe Arg Gly Ser
50 55 60
Ile Thr Ala Val Glu Ala Thr Lys Glu Phe Gly Val His Leu Leu Ile
65 70 75 80
Gln Pro Met Val Val Gln Pro Trp Glu Val Glu Asn Leu Leu Phe Leu
85 90 95
Thr Ser Glu Glu Asp Leu Gln Glu Leu Met Val Ala Val Phe Asp Asp
100 105 110
Ala Ser Leu Ala Ser Tyr Phe Tyr Glu Lys Asp Lys Leu Leu Gly Phe
115 120 125
His Tyr Tyr Phe Val Ala Glu Ala Cys Lys Leu Phe Glu Glu Leu Gln
130 135 140
Trp Val Pro Ser Leu Ser Ala Lys Val Gly Gly Asp Ala Ile Phe Thr
145 150 155 160
Ala Thr Ser Leu Gln Gly Ser Phe Gln Val Val Asp Ile Ser Leu Arg
165 170 175
Leu Asp Gly Lys Asn Val Arg Cys Arg Leu Leu Leu Pro Glu Asp Thr
180 185 190
Phe Gln Ser Cys Gln Lys Phe Phe Ser Gly Leu His Asp Glu Ser Asp
195 200 205
Leu His Asn Ile Asp Gln Thr Gln Gln Ile Ser Leu Ser Val Glu Val
210 215 220
Gly Tyr Ser Gln Leu Thr Gln Glu Glu Trp His Gln Val Val Pro Gly
225 230 235 240
Ser Phe Ile Met Leu Asp Ser Cys Leu Tyr Asp Pro Glu Thr Glu Glu
245 250 255
Ser Gly Ala Leu Leu Thr Val Gln Lys His Gln Phe Phe Gly Gly Arg
260 265 270
Phe Leu Thr Pro Ser Ser Gly Glu Phe Lys Ile Thr Ser Tyr Pro Asn
275 280 285
Leu Thr His Glu Asp Pro Pro Leu Pro Glu Asn Pro Gln Ala Ser Ala
290 295 300
Ala Pro Leu Pro Gly Tyr Ser Arg Leu Val Val Glu Val Ala Arg Tyr
305 310 315 320
Ser Leu Ala Val Ser Glu Phe Ile Lys Leu Asn Leu Gly Ser Ile Leu
325 330 335
Ser Leu Gly Asn His Pro Ala Tyr Gly Val Asp Ile Ile Leu Asp Gly
340 345 350
Ala Lys Val Gly Arg Gly Glu Ile Ile Ala Leu Gly Asp Val Leu Gly
355 360 365
Ile Arg Val Leu Glu Val
370

<210> 707

<211> 281

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0705

<400> 707

Phe	Met	Glu	Leu	Lys	Lys	Thr	Ala	Glu	Ser	Leu	Tyr	Ser	Ala	Lys	Thr
1				5					10					15	
Asp	Asn	His	Thr	Val	Tyr	Gln	Asn	Ser	Pro	Glu	Pro	Arg	Asp	Ser	Arg
			20					25					30		
Asp	Val	Lys	Val	Phe	Ser	Leu	Glu	Gly	Lys	Gln	Thr	Arg	Gln	Glu	Lys
		35					40					45			
Thr	Thr	Ser	Ser	Lys	Gly	Asn	Thr	Arg	Thr	Glu	Ser	Arg	Lys	Phe	Ala
	50				55						60				
Asp	Glu	Glu	Lys	Arg	Val	Asp	Asp	Glu	Ile	Ala	Glu	Val	Gly	Ser	Lys
65					70					75					80
Glu	Glu	Glu	Gln	Glu	Ser	Gln	Glu	Phe	Cys	Leu	Ala	Glu	Asn	Ala	Phe
				85					90					95	
Ala	Gly	Met	Ser	Leu	Ile	Asp	Ile	Ala	Ala	Ala	Gly	Ser	Ala	Glu	Ala
			100					105					110		
Val	Val	Glu	Val	Ala	Pro	Ile	Ala	Val	Ser	Ser	Ile	Asp	Thr	Gln	Trp
		115					120					125			
Ile	Glu	Asn	Ile	Ile	Leu	Ser	Thr	Val	Glu	Ser	Met	Val	Ile	Ser	Glu
	130					135					140				
Ile	Asn	Gly	Glu	Gln	Leu	Val	Glu	Leu	Val	Leu	Asp	Ala	Ser	Ser	Ser
145					150					155					160
Val	Pro	Glu	Ala	Phe	Val	Gly	Ala	Asn	Leu	Thr	Leu	Val	Gln	Ser	Gly
				165					170					175	
Gln	Asp	Leu	Ser	Val	Lys	Phe	Ser	Ser	Phe	Val	Asp	Ala	Thr	Gln	Met
			180				185						190		
Ala	Glu	Ala	Ala	Asp	Leu	Val	Thr	Asn	Asn	Pro	Ser	Gln	Leu	Ser	Ser
		195					200					205			
Leu	Val	Ser	Ala	Leu	Lys	Gly	His	Gln	Leu	Thr	Leu	Lys	Glu	Phe	Ser
	210					215					220				
Val	Gly	Asn	Leu	Leu	Val	Gln	Leu	Pro	Lys	Ile	Glu	Glu	Val	Gln	Thr
225					230					235					240
Pro	Leu	His	Met	Ile	Ala	Ser	Thr	Ile	Arg	His	Arg	Glu	Glu	Lys	Asp
				245					250					255	
Gln	Arg	Asp	Gln	Asn	Gln	Lys	Gln	Lys	Gln	Asp	Asp	Lys	Glu	Gln	Asp
			260					265						270	
Ser	Tyr	Lys	Ile	Glu	Glu	Ala	Arg	Leu							
		275					280								

<210> 708

<211> 170

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0706

<400> 708

Tyr	Ala	Val	Ala	Lys	Tyr	Pro	Leu	Glu	Pro	Val	Leu	Ala	Ile	Lys	Lys
1				5					10					15	
Asp	Arg	Val	Asp	Arg	Ala	Glu	Lys	Val	Val	Lys	Glu	Lys	Arg	Arg	Leu
			20					25					30		
Leu	Glu	Ile	Glu	Gln	Glu	Lys	Leu	Arg	Glu	Lys	Glu	Ala	Glu	Arg	Asp
		35					40					45			
Lys	Val	Lys	Asn	His	Tyr	Met	Gln	Lys	Ile	Gln	Gln	Leu	Arg	Asp	Leu
	50					55					60				
Leu	Asp	Glu	Gly	Thr	Thr	Ser	Asp	Ala	Val	Leu	Gln	Ile	Lys	Ser	Tyr
65					70					75					80
Ile	Lys	Val	Val	Ala	Val	Gln	Leu	Ser	Glu	Glu	Glu	Glu	Lys	Val	Asn
				85					90					95	
Lys	Gln	Lys	Glu	Val	Val	Leu	Ala	Ala	Ser	Lys	Glu	Leu	Glu	Lys	Ala
			100					105						110	

Glu	Val	Asn	Leu	Ala	Lys	Arg	Arg	Lys	Glu	Glu	Glu	Lys	Thr	Arg	Leu
		115					120					125			
His	Lys	Glu	Glu	Trp	Met	Lys	Glu	Ala	Leu	Lys	Glu	Glu	Ala	Arg	Ala
	130					135					140				
Glu	Glu	Lys	Glu	Gln	Asp	Glu	Met	Gly	Gln	Leu	Leu	Phe	Gln	Leu	Arg
145					150					155					160
Gln	Lys	Lys	Lys	Arg	Glu	Ser	Gly	Gly	Ser						
				165					170						

<210> 709

<211> 444

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0707

<400> 709

Val	Asn	Met	Asp	Gln	Leu	Thr	Thr	Asp	Phe	Asp	Thr	Leu	Met	Ser	Gln
1				5					10					15	
Leu	Gly	Asp	Val	Asn	Leu	Thr	Thr	Val	Val	Gly	Arg	Ile	Thr	Glu	Val
			20					25					30		
Val	Gly	Met	Leu	Ile	Lys	Ala	Val	Val	Pro	Asn	Val	Arg	Val	Gly	Glu
		35					40					45			
Val	Cys	Leu	Val	Lys	Arg	Asn	Gly	Met	Glu	Pro	Leu	Val	Thr	Glu	Val
	50					55					60				
Val	Gly	Phe	Thr	Gln	Ser	Phe	Ala	Phe	Leu	Ser	Pro	Leu	Gly	Glu	Leu
65					70					75					80
Ser	Gly	Val	Ser	Pro	Ser	Ser	Glu	Val	Ile	Pro	Thr	Gly	Leu	Pro	Leu
			85						90					95	
His	Ile	Arg	Ala	Gly	Asn	Gly	Leu	Leu	Gly	Arg	Val	Leu	Asn	Gly	Leu
			100						105				110		
Gly	Glu	Pro	Ile	Asp	Val	Glu	Thr	Lys	Gly	Pro	Leu	Gln	Asn	Val	Asp
		115					120					125			
Gln	Thr	Phe	Pro	Ile	Phe	Arg	Ala	Pro	Pro	Asp	Pro	Leu	His	Arg	Ala
	130					135					140				
Lys	Leu	Arg	Gln	Ile	Leu	Ser	Thr	Gly	Val	Arg	Cys	Ile	Asp	Gly	Met
145					150					155					160
Leu	Thr	Val	Ala	Arg	Gly	Gln	Arg	Ile	Gly	Ile	Phe	Ala	Gly	Ala	Gly
				165					170					175	
Val	Gly	Lys	Ser	Ser	Leu	Leu	Gly	Met	Ile	Ala	Arg	Asn	Ala	Glu	Glu
			180					185					190		
Ala	Asp	Val	Asn	Val	Ile	Ala	Leu	Ile	Gly	Glu	Arg	Gly	Arg	Glu	Val
		195					200					205			
Arg	Glu	Phe	Ile	Glu	Gly	Asp	Leu	Gly	Glu	Glu	Gly	Met	Lys	Arg	Ser
	210					215					220				
Val	Ile	Val	Val	Ser	Thr	Ser	Asp	Gln	Ser	Ser	Gln	Leu	Arg	Leu	Asn
225					230					235					240
Ala	Ala	Tyr	Val	Gly	Thr	Ala	Ile	Ala	Glu	Tyr	Phe	Arg	Asp	Gln	Gly
			245						250					255	
Lys	Thr	Val	Val	Leu	Met	Met	Asp	Ser	Val	Thr	Arg	Phe	Ala	Arg	Ala
		260						265					270		
Leu	Arg	Glu	Val	Gly	Leu	Ala	Ala	Gly	Glu	Pro	Pro	Ala	Arg	Ala	Gly
		275					280					285			
Tyr	Thr	Pro	Ser	Val	Phe	Ser	Thr	Leu	Pro	Arg	Leu	Leu	Glu	Arg	Ser
	290					295					300				
Gly	Ala	Ser	Asp	Lys	Gly	Thr	Ile	Thr	Ala	Phe	Tyr	Thr	Val	Leu	Val
305					310					315					320
Ala	Gly	Asp	Asp	Met	Asn	Glu	Pro	Val	Ala	Asp	Glu	Val	Lys	Ser	Ile
				325					330					335	

Leu Asp Gly His Ile Val Leu Ser Asn Ala Leu Ala Gln Ala Tyr His
 340 345 350
 Tyr Pro Ala Ile Asp Val Leu Ala Ser Ile Ser Arg Leu Leu Thr Ala
 355 360 365
 Ile Val Pro Glu Glu Gln Arg Arg Ile Ile Gly Lys Ala Arg Glu Val
 370 375 380
 Leu Ala Lys Tyr Lys Ala Asn Glu Met Leu Ile Arg Ile Gly Glu Tyr
 385 390 395 400
 Arg Arg Gly Ser Asp Arg Glu Ile Asp Phe Ala Ile Asp His Ile Asp
 405 410 415
 Lys Leu Asn Arg Phe Leu Lys Gln Asp Ile His Glu Lys Thr Asn Tyr
 420 425 430
 Glu Glu Ala Ala Gln Gln Leu Arg Ala Ile Phe Arg
 435 440

<210> 710

<211> 235

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0708

<400> 710

Ala Phe Lys Thr Val Lys Arg Phe Phe Cys Phe Met Ile Asp Pro Val
 1 5 10 15
 Glu Cys Phe Pro Asn Leu Asp Gly Asp Ala Glu Ala Gln Ser Ile Thr
 20 25 30
 Gln Asn Ser Gly Thr Pro Leu Ala Ser Glu Leu Lys Lys Asp Ile Ser
 35 40 45
 Pro Phe Ala Leu Gly Ser Tyr Ala Ala Pro Lys Asp Thr Thr Leu Val
 50 55 60
 Gln Gly Phe Lys Pro Asn Pro Met Ala Met Met Gln Asp Gln Asn Ser
 65 70 75 80
 Asn Leu Ile Asp Pro Glu Leu Gln Glu Ala Leu Glu Ser Glu Glu Leu
 85 90 95
 Gln Glu Gln Ile Asn Asn Leu Lys Gly Arg Leu Trp Asp Phe Arg Ser
 100 105 110
 Thr Phe Glu Asp Ser Gln Thr Thr Ala Gln Phe Ala Asp Glu His Phe
 115 120 125
 Gln Ala Val Gly Val Ile Ile Asp Leu Ile Asn Glu Asp Leu Asn Thr
 130 135 140
 Ile Ala Glu His Thr Gln Asp Ala Arg Lys Glu Asp Lys Glu Glu
 145 150 155 160
 Gly Ser Val Thr Arg Lys Ile Ile Asp Trp Val Ser Ser Gly Glu Glu
 165 170 175
 Val Leu Asn Arg Ala Leu Leu Tyr Phe Ser Asp Arg Asp Gly Asn Arg
 180 185 190
 Glu Ser Leu Ala Asn Phe Leu Lys Val Gln Tyr Ala Val Gln Arg Ala
 195 200 205
 Thr Gln Arg Ala Glu Leu Phe Ala Ser Ile Val Gly Thr Ser Val Ser
 210 215 220
 Ser Val Lys Thr Ile Met Thr Thr Gln Leu Gly
 225 230 235

<210> 711

<211> 154

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0709

<400> 711

Tyr Lys Arg Glu Ile Met Ala Asp Leu Glu Val Phe Gln Ala Asp Phe
1 5 10 15
Ala Leu Leu Phe Glu Ala Gly Leu Leu Ala Ile Lys Gln Gly Asp Glu
20 25 30
Asp Ser Ala Arg Lys Leu Phe Gln Ser Leu His Ile Leu Asn Pro Asn
35 40 45
His Tyr Gly His Asp Leu Gly Leu Ala Leu Ile Ser Leu His Lys Met
50 55 60
Asp Leu Phe Asp Ala Glu Arg Leu Ser Ala Leu Ile Lys Gly Asn
65 70 75 80
Glu Asp Asn Trp Ser Ile Lys Ala Phe Leu Ser Leu Thr His Met Leu
85 90 95
Ile Val Leu His Gln Gly Ser Ser Phe Glu Val Arg Arg Glu Ser Leu
100 105 110
Glu Ser Cys Leu Lys Phe Ala Asp Gln Val Ile Ala Asn Cys Lys Ile
115 120 125
Glu Ser Thr Arg Ala Leu Ala Gln Ser Val Leu Asp Trp His Asp Thr
130 135 140
Leu Val Ala Lys Ser Ala Gly Pro Leu Gly
145 150

<210> 712

<211> 91

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0710

<400> 712

Arg Ser Arg Gly Glu Lys Ser Met Ala Thr Asn Lys Ser Cys Thr Ala
1 5 10 15
Phe Asp Phe Asn Lys Met Leu Asp Gly Val Cys Thr Tyr Val Lys Gly
20 25 30
Val Gln Gln Tyr Leu Thr Glu Leu Glu Thr Ser Thr Gln Gly Thr Val
35 40 45
Asp Leu Gly Thr Met Phe Asn Leu Gln Phe Arg Met Gln Ile Leu Ser
50 55 60
Gln Tyr Met Glu Ser Val Ser Asn Ile Leu Thr Ala Val Asn Thr Glu
65 70 75 80
Met Ile Thr Met Ala Arg Ala Val Lys Gly Ser
85 90

<210> 713

<211> 102

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0711

<400> 713

Thr Thr Ile Asn Asn Gln Val Leu Gly Phe Ile Asn Tyr Leu Tyr Leu
1 5 10 15
Gly Arg Tyr Ser Met Phe Asn Met Glu Asn Thr Ala Lys Glu Glu Lys
20 25 30

Asn	Ser	Gln	Pro	Leu	Leu	Asp	Leu	Glu	Gln	Asp	Met	Gln	Asp	His	Asp
		35					40				45				
Arg	Ala	Gln	Glu	Leu	Lys	Ala	Ser	Val	Gln	Asp	Lys	Val	His	Lys	Leu
	50				55					60					
His	Ala	Leu	Leu	Arg	Glu	Gly	Ser	Asp	Lys	Glu	Ser	Phe	Gly	Gln	Gln
65				70					75					80	
Gln	Ser	Leu	Leu	Ala	Gly	Tyr	Val	Ala	Leu	Gln	Lys	Val	Leu	Gly	Arg
			85						90					95	
Ile	Asn	Arg	Lys	Met	Ile										
			100												

<210> 714
 <211> 845
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0712

<400> 714															
Met	Ala	Val	Arg	Leu	Ile	Val	Asp	Glu	Gly	Pro	Leu	Ser	Gly	Val	Ile
1				5					10				15		
Phe	Val	Leu	Glu	Asp	Gly	Ile	Ser	Trp	Ser	Ile	Gly	Arg	Asp	Ser	Ser
		20					25				30				
Ala	Asn	Asp	Ile	Pro	Ile	Glu	Asp	Pro	Lys	Leu	Gly	Ala	Ser	Gln	Ala
	35					40				45					
Ile	Ile	Asn	Lys	Thr	Asp	Gly	Ser	Tyr	Tyr	Ile	Thr	Asn	Leu	Asp	Asp
50				55					60						
Thr	Ile	Pro	Ile	Val	Val	Asn	Gly	Val	Ala	Ile	Gln	Glu	Thr	Thr	Gln
65			70					75					80		
Leu	Lys	Asn	Glu	Asp	Thr	Ile	Leu	Leu	Gly	Ser	Asn	Gln	Tyr	Ser	Phe
		85					90					95			
Leu	Ser	Asp	Glu	Phe	Asp	Pro	Gln	Asp	Leu	Val	Tyr	Asp	Phe	Asp	Ile
		100				105				110					
Pro	Glu	Glu	Asn	Phe	Ser	Asn	Asp	Ser	Gly	Asp	Leu	Ser	Asp	Ser	Asn
	115				120					125					
Glu	Gln	Gly	Lys	Asp	Leu	Glu	Pro	Arg	Gln	Thr	Ser	Glu	Thr	Asn	His
	130				135				140						
Ser	Pro	Lys	Pro	Lys	Glu	Lys	Leu	Thr	Lys	Asp	Gln	Gly	Ser	Ser	Asp
145			150					155					160		
Pro	Ile	Thr	Ser	Gly	Asp	Gln	Glu	Leu	Ala	Asp	Ala	Phe	Leu	Ala	Ser
		165					170						175		
Ala	Lys	Ala	Glu	Lys	Asn	Gln	Pro	Arg	Ala	Lys	Val	Ala	Lys	Lys	Gly
	180						185				190				
Leu	Lys	Glu	Ser	Ser	Asn	Glu	Ser	Leu	Asn	Pro	Lys	Glu	Gln	Asn	Ala
	195					200				205					
Lys	Asp	Ser	Pro	Lys	Gly	Glu	Glu	Arg	Thr	Asn	Lys	Pro	Gln	Asn	Ala
	210				215				220						
Ile	Met	Glu	Asp	Asn	Gly	Ala	Ser	Pro	Arg	Gln	Asp	Pro	Gln	Pro	Lys
225			230					235					240		
Ser	Ala	Glu	Pro	Ser	Leu	Lys	Asn	Thr	Ala	Arg	Asp	Glu	Thr	Pro	Leu
		245					250						255		
Lys	Glu	Asn	Lys	Pro	Val	Glu	Glu	Lys	Ala	Asn	Lys	Lys	Ala	Thr	Pro
	260						265						270		
Asp	Ser	Pro	Glu	Lys	Lys	Asp	Gln	Pro	Glu	Glu	Gly	Ser	Lys	Lys	Glu
	275					280					285				
Gly	Ser	Lys	Ile	Glu	Ala	Thr	Pro	Leu	Asp	Ser	Gln	Lys	Glu	Ser	Glu
	290				295					300					
Asp	Lys	Glu	Ala	Glu	Glu	Ala	Phe	Val	Gln	Glu	Glu	Glu	Glu	Asn	Leu
305				310					315					320	

Thr	Glu	Asp	Asn	Lys	Glu	Asp	Ser	Asp	Ser	Ala	Ala	Asp	Ala	Asn	Asp	
				325					330					335		
Asp	Thr	Ala	Ser	Asp	His	Thr	Ala	Glu	Asp	Asn	Lys	Glu	Thr	Pro	Lys	
				340				345					350			
Lys	Val	Glu	Asn	Glu	Lys	Ser	Ala	Val	Leu	Ser	Pro	Phe	His	Val	Gln	
		355					360					365				
Asp	Leu	Phe	Arg	Phe	Asp	Gln	Thr	Ile	Phe	Pro	Ala	Glu	Ile	Asp	Asp	
	370					375					380					
Ile	Ala	Lys	Lys	Asn	Ile	Ser	Val	Asp	Leu	Thr	Gln	Pro	Ser	Arg	Phe	
385					390					395					400	
Leu	Leu	Lys	Val	Leu	Ala	Gly	Ala	Asn	Ile	Gly	Ala	Glu	Phe	His	Leu	
				405					410					415		
Asp	Ser	Gly	Lys	Thr	Tyr	Ile	Leu	Gly	Thr	Asp	Pro	Thr	Thr	Cys	Asp	
			420					425					430			
Ile	Val	Phe	Asn	Asp	Leu	Ser	Val	Ser	His	Gln	His	Ala	Lys	Ile	Thr	
		435					440					445				
Val	Gly	Asn	Asp	Gly	Gly	Ile	Leu	Ile	Glu	Asp	Leu	Asp	Ser	Lys	Asn	
	450					455					460					
Gly	Val	Ile	Val	Glu	Gly	Arg	Lys	Ile	Asp	Lys	Thr	Ser	Thr	Leu	Ser	
465					470					475					480	
Ser	Asn	Gln	Val	Val	Ala	Leu	Gly	Thr	Thr	Leu	Phe	Leu	Leu	Ile	Asp	
			485						490					495		
His	His	Ala	Pro	Ala	Asp	Thr	Ile	Val	Ala	Ser	Leu	Ser	Pro	Asp	Asp	
			500					505					510			
Tyr	Ser	Leu	Phe	Gly	Arg	Gln	Gln	Asp	Ala	Glu	Ala	Leu	Glu	Arg	Gln	
		515					520					525				
Glu	Ala	Gln	Glu	Glu	Glu	Lys	Gln	Lys	Arg	Ala	Thr	Leu	Pro	Ala		
	530					535				540						
Gly	Ser	Phe	Ile	Leu	Thr	Leu	Phe	Val	Gly	Gly	Leu	Ala	Ile	Leu	Phe	
545					550					555					560	
Gly	Ile	Gly	Thr	Ala	Ser	Leu	Phe	His	Thr	Lys	Glu	Val	Val	Pro	Leu	
			565						570					575		
Glu	Asn	Ile	Asp	Tyr	Gln	Glu	Asp	Leu	Ala	Gln	Val	Ile	Asn	Gln	Phe	
			580				585						590			
Pro	Thr	Val	Arg	Tyr	Thr	Phe	Asn	Lys	Thr	Asn	Ser	Gln	Leu	Phe	Leu	
		595					600					605				
Ile	Gly	His	Val	Lys	Asn	Ser	Thr	Asp	Lys	Ser	Glu	Leu	Leu	Tyr	Lys	
	610					615					620					
Val	Asp	Ala	Leu	Ser	Phe	Val	Lys	Ser	Val	Asp	Asp	Asn	Val	Ile	Asp	
625					630					635					640	
Asp	Glu	Ala	Val	Trp	Gln	Glu	Met	Asn	Ile	Leu	Leu	Ser	Lys	Arg	Pro	
			645						650					655		
Glu	Phe	Lys	Gly	Ile	Ser	Met	His	Ser	Pro	Glu	Pro	Gly	Lys	Phe	Ile	
			660					665					670			
Ile	Thr	Gly	Tyr	Val	Lys	Thr	Glu	Gln	Ala	Ala	Cys	Leu	Val	Asp		
		675					680					685				
Tyr	Leu	Asn	Ile	His	Phe	Asn	Tyr	Leu	Ser	Leu	Leu	Glu	Asn	Lys	Val	
	690					695						700				
Val	Val	Glu	Thr	Gln	Met	Leu	Lys	Ala	Ile	Ala	Gly	His	Leu	Leu	Gln	
705					710					715					720	
Gly	Gly	Phe	Ala	Asn	Ile	His	Val	Ala	Phe	Val	Asn	Gly	Glu	Val	Ile	
			725						730					735		
Leu	Thr	Gly	Tyr	Val	Asn	Asn	Asp	Asp	Ala	Glu	Lys	Phe	Arg	Ala	Val	
			740				745							750		
Val	Gln	Glu	Leu	Ser	Gly	Ile	Pro	Gly	Val	Arg	Leu	Val	Lys	Asn	Phe	
		755					760					765				
Ala	Val	Leu	Leu	Pro	Ala	Glu	Gly	Ile	Ile	Asp	Leu	Asn	Leu	Arg		
	770					775					780					
Tyr	Pro	Asn	Arg	Tyr	Arg	Val	Thr	Gly	Tyr	Ser	Arg	Tyr	Gly	Glu	Ile	
785					790					795					800	

Ser Ile Asn Val Val Val Asn Gly Arg Ile Leu Thr Arg Gly Asp Val
805 810 815
Ile Asp Gly Met Thr Val Thr Ser Ile Gln Pro Asn Ala Ile Phe Leu
820 825 830
Glu Lys Glu Gly Leu Lys Tyr Lys Ile Asp Tyr Asn Lys
835 840 845

<210> 715
<211> 162
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0713

<400> 715
Leu Asp Leu Lys Glu Glu Lys Ala Gly Phe Arg Asn Glu Ile Val Ser
1 5 10 15
Ile Pro Gln Gly Thr Lys Thr Thr Ile Ala Ala Leu Glu Asn Thr Ser
20 25 30
Met Leu Glu Lys Leu Ile Lys Asn Phe Ala Thr Tyr Met Gly Ile Thr
35 40 45
Ser Thr Leu Glu Leu Asp Ala Asp Gly Ala Tyr Val Leu Pro Ile Ser
50 55 60
Glu Val Val Lys Val Arg Ala Gln Gln Asn Ala Asp Asn Glu Ile Val
65 70 75 80
Leu Ser Ala Ser Leu Gly Ala Leu Pro Pro Ser Ala Asp Thr Ala Lys
85 90 95
Leu Tyr Leu Gln Met Met Ile Gly Asn Leu Phe Gly Arg Glu Thr Gly
100 105 110
Gly Ser Ala Leu Gly Leu Asp Ser Glu Gly Asn Val Val Met Val Arg
115 120 125
Arg Phe Ser Gly Asp Thr Thr Tyr Asp Asp Phe Val Arg His Val Glu
130 135 140
Ser Phe Met Asn Phe Ser Glu Thr Trp Leu Ser Asp Leu Gly Leu Gly
145 150 155 160
Lys Gln

<210> 716
<211> 345
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0714

<400> 716
Asn Tyr Arg Ile Val Leu Met Val Leu Gly Val Val Gly Ile Ser Tyr
1 5 10 15
Arg Glu Ala Ala Leu Lys Glu Arg Glu Arg Ala Ile Gln Tyr Leu Gln
20 25 30
Ser Phe Glu Lys Asn Leu Phe Leu Ala Gln Arg Phe Leu Gly Lys Gly
35 40 45
Gly Ala Phe Ile Pro Leu Leu Thr Cys His Arg Ala Glu Leu Tyr Tyr
50 55 60
Tyr Ser Glu Ser Pro Glu Ile Ala Gln Ala Ala Leu Leu Ser Glu Leu
65 70 75 80
Thr Ser Gln Gly Ile Arg Pro Tyr Arg His Arg Gly Leu Ser Cys Phe
85 90 95

Thr	Phe	His	Arg	Gly	Val	Leu	Gln	Glu	Ser	Lys	Gln	Gly	Ser	Thr	Lys
145					150					155					160
Asp	Pro	Asp	Gly	Thr	Phe	Val	Ser	Phe	Thr	Pro	Asp	Pro	Ser	Ile	Phe
			165						170					175	
Pro	Glu	Phe	Thr	Phe	Asn	His	Asp	Phe	Leu	Lys	Asp	Lys	Ile	Arg	Gln
			180					185					190		
Tyr	Thr	Tyr	Leu	His	Ser	Gly	Leu	Glu	Ile	Arg	Phe	Asn	Asp	Glu	Val
		195				200						205			
Phe	Ile	Ser	His	Asn	Gly	Leu	Lys	Asp	Leu	Phe	Asp	Ala	Glu	Ile	Thr
	210				215						220				
Glu	Pro	Pro	Leu	Tyr	Ser	Pro	Leu	Phe	Phe	Gln	Asn	Glu	Asp	Leu	Thr
225					230					235					240
Phe	Ile	Phe	Ser	His	Leu	Glu	Gly	Asn	Thr	Glu	Arg	Tyr	Phe	Ser	Phe
				245					250					255	
Val	Asn	Gly	Gln	Glu	Thr	Leu	Asp	Gly	Gly	Thr	His	Leu	Thr	Ala	Phe
			260					265					270		
Lys	Glu	Ala	Ile	Val	Lys	Gly	Val	Asn	Glu	Phe	Phe	Gly	Lys	Thr	Phe
	275						280					285			
Val	Ser	Asn	Asp	Ile	Arg	Glu	Gly	Ile	Val	Gly	Cys	Ile	Ala	Ile	Lys
	290					295					300				
Ile	Ala	Ser	Pro	Ile	Phe	Glu	Ser	Gln	Thr	Lys	Asn	Lys	Leu	Gly	Asn
305					310					315					320
Thr	Gln	Ile	Arg	Ser	Ser	Leu	Ile	Lys	Asp	Val	Lys	Glu	Ala	Ile	Val
				325					330					335	
Gln	Ala	Leu	Arg	Lys	Asp	Lys	Val	Ala	Pro	Glu	Leu	Leu	Leu	Glu	Lys
			340					345					350		
Ile	Lys	Phe	Asn	Glu	Lys	Thr	Arg	Lys	Asn	Ile	Gln	Phe	Ile	Lys	Gln
	355					360					365				
Asp	Leu	Lys	Ser	Lys	Gln	Lys	Lys	Val	His	Tyr	Lys	Ile	Pro	Lys	Leu
	370					375					380				
Arg	Asp	Cys	Lys	Phe	His	Tyr	Asn	Asp	Arg	Ser	Leu	Tyr	Gly	Glu	Ala
385					390					395					400
Ser	Ser	Ile	Phe	Leu	Thr	Glu	Gly	Glu	Ser	Ala	Ser	Ala	Ser	Ile	Leu
				405					410					415	
Ala	Ser	Arg	Asn	Pro	Leu	Thr	Gln	Ala	Val	Phe	Ser	Leu	Arg	Gly	Lys
			420					425					430		
Pro	Met	Asn	Val	Phe	Ser	Leu	Glu	Glu	Thr	Lys	Met	Tyr	Lys	Asn	Asp
		435					440					445			
Glu	Leu	Phe	Tyr	Leu	Ala	Thr	Ala	Leu	Gly	Ile	Thr	Gln	Asn	Glu	Ile
	450					455					460				
Gln	His	Leu	Arg	Tyr	Asn	Lys	Val	Ile	Leu	Ala	Thr	Asp	Ala	Asp	Val
465					470					475					480
Asp	Gly	Met	His	Ile	Arg	Asn	Leu	Leu	Ile	Thr	Phe	Phe	Leu	Lys	Thr
				485					490					495	
Leu	Leu	Pro	Leu	Val	Glu	Asn	Asn	His	Leu	Phe	Ile	Leu	Glu	Thr	Pro
			500					505					510		
Leu	Phe	Lys	Val	Arg	Asn	Lys	Thr	Thr	Thr	Leu	Tyr	Tyr	Tyr	Ser	Glu
		515					520						525		
Gln	Glu	Lys	Met	Gln	Ala	Leu	Gln	Gln	Phe	Gly	Lys	Lys	Asp	Ser	Ser
	530					535					540				
Leu	Glu	Ile	Thr	Arg	Phe	Lys	Gly	Leu	Gly	Glu	Ile	Ser	Pro	Lys	Glu
545					550					555					560
Phe	Ala	Ala	Phe	Ile	Gly	Pro	Glu	Ile	Arg	Leu	Thr	Pro	Val	Thr	Ile
				565					570					575	
Thr	Ser	Leu	Glu	Ser	Ile	Ser	Ser	Ile	Leu	Gln	Phe	Tyr	Met	Gly	Lys
			580					585					590		
Asn	Thr	Lys	Glu	Arg	Lys	Gln	Phe	Ile	Met	Asp	Asn	Leu	Ile	Thr	Asp
		595				600						605			
Phe															

<210> 718
 <211> 479
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0716

<400> 718
 Phe Met Arg Asp Val Ser Glu Leu Phe Arg Thr His Phe Met His Tyr
 1 5 10 15
 Ala Ser Tyr Val Ile Leu Glu Arg Ala Ile Pro His Ile Leu Asp Gly
 20 25 30
 Leu Lys Pro Val Gln Arg Arg Leu Leu Trp Thr Leu Phe Leu Met Asp
 35 40 45
 Asp Gly Lys Met His Lys Val Ala Asn Ile Ala Gly Arg Thr Met Ala
 50 55 60
 Leu His Pro His Gly Asp Ala Pro Ile Val Glu Ala Leu Val Val Leu
 65 70 75 80
 Ala Asn Lys Gly Tyr Leu Ile Asp Thr Gln Gly Asn Phe Gly Asn Pro
 85 90 95
 Leu Thr Gly Asp Pro His Ala Ala Ala Arg Tyr Ile Glu Ala Arg Leu
 100 105 110
 Ser Pro Leu Ala Arg Glu Thr Leu Phe Asn Thr Asp Leu Ile Ala Phe
 115 120 125
 His Asp Ser Tyr Asp Gly Arg Glu Lys Glu Pro Asp Ile Leu Pro Ala
 130 135 140
 Lys Leu Pro Val Leu Leu Leu His Gly Val Asp Gly Ile Ala Val Gly
 145 150 155 160
 Met Thr Thr Lys Ile Phe Pro His Asn Phe Ala Glu Leu Leu Lys Ala
 165 170 175
 Gln Ile Ala Ile Leu Asn Asp Lys Lys Phe Thr Val Phe Pro Asp Phe
 180 185 190
 Pro Ser Gly Glu Leu Met Asp Pro Ser Glu Tyr Gln Asp Gly Leu Gly
 195 200 205
 Ser Ile Thr Leu Arg Ala Ser Ile Asp Ile Ile Asn Asp Lys Thr Leu
 210 215 220
 Val Val Lys Gln Ile Cys Pro Gln Ser Thr Thr Glu Thr Leu Ile Arg
 225 230 235 240
 Ser Ile Glu Asn Ala Ala Lys Arg Gly Thr Ile Lys Ile Asp Thr Ile
 245 250 255
 Gln Asp Phe Ser Thr Asp Val Pro His Ile Glu Ile Lys Leu Pro Lys
 260 265 270
 Gly Ser Arg Ala Lys Glu Met Leu Pro Leu Leu Phe Glu His Thr Glu
 275 280 285
 Cys Gln Val Ile Leu Tyr Ser Lys Pro Thr Val Ile Tyr Glu Asn Lys
 290 295 300
 Pro Val Glu Cys Ser Ile Ser Glu Ile Leu Lys Leu His Thr Thr Ala
 305 310 315 320
 Leu Gln Gly Tyr Leu Glu Lys Glu Leu Leu Leu Gln Glu Gln Leu
 325 330 335
 Thr Leu Asp His Tyr His Lys Thr Leu Glu Tyr Ile Phe Ile Lys His
 340 345 350
 Lys Leu Tyr Asp Ser Val Arg Glu Val Leu Ala Ile Asn Lys Lys Ile
 355 360 365
 Ser Ala Asp Asp Leu His Gln Ala Val Leu His Ala Leu Glu Pro Trp
 370 375 380
 Leu His Glu Leu Ala Thr Pro Val Thr Lys Gln Asp Thr Ser Gln Leu
 385 390 395 400
 Ala Ser Leu Thr Ile Lys Lys Ile Leu Cys Phe Asn Glu Glu Ala Cys
 405 410 415

Thr Lys Glu Leu Leu Ala Ile Glu Lys Lys Gln Ala Ala Ile Gln Lys
420 425 430
Asp Leu Gly Arg Ile Lys Glu Val Thr Val Lys Tyr Leu Lys Gly Leu
435 440 445
Leu Glu Arg His Gly His Leu Gly Glu Arg Lys Thr Gln Ile Thr Asn
450 455 460
Phe Lys Thr Ala Lys Thr Ser Ile Leu Lys Gln Gln Thr Leu Ile
465 470 475

<210> 719
<211> 113
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0717

<400> 719
Ile Arg Ile Lys Phe Ile Asp Thr Ile Thr Ile Val Val Arg Met Glu
1 5 10 15
Pro Arg His Ile Tyr Ile Arg Lys Pro Glu Thr Pro Lys Ala Pro Asp
20 25 30
Val Glu Lys Pro Gly Val Pro Glu Tyr Met Thr Met Ala Asn Thr Pro
35 40 45
Thr Phe Glu Gly Pro Val Lys Thr Leu Asp Gln Leu Arg Arg Ala Leu
50 55 60
Ile Glu Gln Arg Gly Ala Glu Glu Gly Gln Lys Met Tyr Asp Asn Phe
65 70 75 80
Ile Gln Ser Ile Leu Ile Ser Thr Phe Gly Leu Val His Lys Asp Met
85 90 95
Asp Arg Ala Gln Lys Ala Ser Lys Arg Met Arg Ser Val Tyr Lys Glu
100 105 110
Gln

<210> 720
<211> 109
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0718

<400> 720
Arg Ala Val Met Ser Phe Thr Tyr Phe Leu Ala Leu Pro Val Asp Arg
1 5 10 15
Leu Met Gln Glu Arg Phe Leu Cys Ser Pro Lys Arg Trp Ala Pro Phe
20 25 30
Ile Asn Ser Pro Leu Tyr Leu Thr Leu Ile Ala Asp His Asp Thr Pro
35 40 45
Tyr Leu Ala Lys Asn Leu Asp Lys Phe Pro Leu Pro Val Glu Gln Trp
50 55 60
Glu Lys Thr Val Leu His Val Ser Ser Leu Leu Lys Ser Ile Phe Leu
65 70 75 80
Cys Ser Asp Leu Ser Ser Leu Arg Leu Leu Ala Cys Thr Lys Phe Glu
85 90 95
Ile Leu Thr Leu Asn Asp Leu Tyr Cys Ala Gln Asn Ile
100 105

<210> 721
 <211> 338
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0719

<400> 721
 Phe Asp Ile Lys Leu Val Lys Lys Val Ile Lys Ile Ser Met Lys Thr
 1 5 10 15
 Val Thr Ser Phe Thr Val Cys Lys Glu Asn Ser Gly Arg Leu Asp Lys
 20 25 30
 Tyr Leu Thr Glu Val His Pro Lys Tyr Ser Arg Ala Phe Tyr Gln Glu
 35 40 45
 His Ile Leu Ser Gly Leu Val Gln Ile Asn Gly Gln Ile Asn Thr Arg
 50 55 60
 Val Ala Thr Arg Leu Asn Cys Gly Asp Ile Val Thr Ile Asp Ile Gln
 65 70 75 80
 Glu Lys Glu Glu Leu Leu Glu Leu Leu Pro Glu Ala Ile Pro Leu Asp
 85 90 95
 Lys Val Tyr Glu Asp Gly Met Ile Leu Val Ile Asn Lys Pro Arg Asp
 100 105 110
 Met Val Val His Pro Ala Pro Gly His Phe His Gly Thr Leu Val His
 115 120 125
 Ala Leu Leu His Glu Ile Gly Glu Arg Leu Lys Glu Glu Phe Pro Glu
 130 135 140
 Glu Pro Trp Arg Pro Gly Ile Val His Arg Leu Asp Lys Asp Thr Ser
 145 150 155 160
 Gly Leu Ile Ile Thr Ala Lys Thr Arg Gln Ala Lys Lys Val Phe Ser
 165 170 175
 Glu Leu Phe Ser Thr Lys Arg Leu Lys Lys Ser Tyr Leu Ala Val Cys
 180 185 190
 Ile Gly Lys Pro Arg Ser Thr Thr Ile His Thr His Ile Ser Arg His
 195 200 205
 Gln Asn Lys Arg Lys Glu Met Thr Val Ser Ser Gln Gly Lys Glu Ala
 210 215 220
 Val Thr His Cys Gln Val Leu Ala Phe Asn Gly Lys Leu Ser Phe Val
 225 230 235 240
 Ala Leu Ser Pro Glu Thr Gly Arg Thr His Gln Leu Arg Val His Met
 245 250 255
 Lys His Leu Gly Thr Pro Ile Leu Gly Asp Pro Val Tyr Gly Ile Pro
 260 265 270
 Ser Met Asn Ser Ser Tyr Gly Leu Asp Lys Gln Gln Leu His Ala Tyr
 275 280 285
 Ser Val Asp Phe Thr His Pro Glu Thr Arg Gln Phe Cys Ser Leu Lys
 290 295 300
 Ala Gly Leu Pro Glu Asp Met Arg Ser Leu Leu Ile Lys Glu Phe Arg
 305 310 315 320
 Asn Glu Thr Thr Ile Leu Asn Lys Asn Leu Leu Glu Ser Ile Leu Lys
 325 330 335
 Glu Gln

<210> 722
 <211> 82
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0720

<400> 722
 Leu Arg Ile Thr Met Lys Glu Phe Leu Ala Tyr Ile Ile Lys Asn Leu
 1 5 10 15
 Val Asp Arg Pro Glu Glu Val Arg Ile Lys Glu Val Gln Gly Thr His
 20 25 30
 Thr Ile Ile Tyr Glu Leu Ser Val Ala Lys Pro Asp Ile Gly Lys Ile
 35 40 45
 Ile Gly Lys Glu Gly Arg Thr Ile Lys Ala Ile Arg Thr Leu Leu Val
 50 55 60
 Ser Val Ala Ser Arg Asn Asn Val Arg Val Ser Leu Glu Ile Met Glu
 65 70 75 80
 Glu Lys

<210> 723
 <211> 273
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0721

<400> 723
 Lys Arg Met Val Met Phe Asn Asn Lys Met Ile Leu Ile Ala Gly Pro
 1 5 10 15
 Cys Val Ile Glu Gly Glu Asp Ile Thr Leu Glu Ile Ala Gly Lys Leu
 20 25 30
 Gln Ser Ile Leu Ala Pro Tyr Ser Asp Arg Ile Gln Trp Phe Phe Lys
 35 40 45
 Ser Ser Tyr Asp Lys Ala Asn Arg Ser Ser Leu Asn Ser Phe Arg Gly
 50 55 60
 Pro Gly Leu Thr Glu Gly Leu Arg Ile Leu Ala Lys Val Lys Glu Thr
 65 70 75 80
 Phe Gly Val Gly Ile Leu Thr Asp Val His Thr Pro Gln Asp Ala Tyr
 85 90 95
 Ala Ala Ala Glu Val Cys Asn Ile Leu Gln Val Pro Ala Phe Leu Cys
 100 105 110
 Arg Gln Thr Asp Leu Leu Val Ala Thr Ala Glu Thr Gly Ala Ile Val
 115 120 125
 Asn Leu Lys Lys Gly Gln Phe Leu Ser Pro Trp Asp Met Glu Gly Pro
 130 135 140
 Ile Asn Lys Val Leu Ser Thr Gly Asn Asn Lys Ile Leu Leu Thr Glu
 145 150 155 160
 Arg Gly Cys Ser Phe Gly Tyr Asn Asn Leu Val Ser Asp Met Arg Ser
 165 170 175
 Ile Pro Val Leu Ser Arg Ser Gly Phe Pro Val Ile Phe Asp Ala Thr
 180 185 190
 His Ser Val Gln Leu Pro Gly Ala Leu Ser Thr Glu Ser Gly Gly Leu
 195 200 205
 Thr Glu Phe Val Pro Thr Leu Ser Arg Ala Ala Leu Ala Ala Gly Ala
 210 215 220
 His Gly Leu Phe Ile Glu Thr His Thr Asn Pro Lys Ile Ala Lys Ser
 225 230 235 240
 Asp Ala Ala Ser Met Leu Ser Leu Glu Glu Phe Ala Ala Leu Leu Pro
 245 250 255
 Thr Trp Asp Gln Leu Phe Thr Cys Val Ser Ser Phe Asp Met Val Ser
 260 265 270
 Ala

<210> 724
 <211> 166
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0722

<400> 724
 Tyr Gly Leu Ser Met Thr Lys Phe Leu Tyr Cys Gly Leu Phe Tyr Ser
 1 5 10 15
 Leu Gly Leu Leu Val Leu Ala Phe Gly Thr Met Val Ala Ile Ile Gln
 20 25 30
 Val Asp Gln Ile Cys Asp Val Ser Cys Met Asn Lys His Phe Gln Glu
 35 40 45
 Ser Pro Pro Phe Leu Lys Ile Lys Lys Val Asn Val Ser Lys Gln Ile
 50 55 60
 Cys Ser Pro Glu Glu Arg Phe Phe His Cys Lys Ile Asp Lys Ser Cys
 65 70 75 80
 Met Glu Leu His Phe Pro Gln Ser Ser Tyr Ser Cys Lys Glu Tyr Leu
 85 90 95
 Thr Arg Ile Ser Gly His Ile Leu Thr Gln Asn Phe Glu Lys Gln Met
 100 105 110
 Gln Phe Arg Gly Asn Ser Gly Leu Leu Asn Tyr Gln Asp Gly Ser Leu
 115 120 125
 His Val Tyr Asp Cys Arg Phe Gln Val Asp Pro Val Pro Gly Tyr Gly
 130 135 140
 Ser Pro Asp Lys Glu Asp Ser Ser Ser Gly Gly Met Lys Thr Leu Tyr
 145 150 155 160
 Leu Ser Leu Phe Arg Asn
 165

<210> 725
 <211> 242
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0723

<400> 725
 Ala Ser Met Pro Ile Leu Ser Val Cys Asn Leu Val Lys Lys Tyr Asn
 1 5 10 15
 Lys Lys Pro Val Thr Asn Asp Val Ser Phe Gln Ile Asn Pro Gly Glu
 20 25 30
 Ile Val Gly Leu Leu Gly Pro Asn Gly Ala Gly Lys Thr Thr Ala Phe
 35 40 45
 Tyr Leu Thr Val Gly Leu Ile Arg Pro Asp Ser Gly Lys Ile Ile Phe
 50 55 60
 Lys Asn Val Asp Val Thr Lys Lys Thr Met Asp His Arg Ala Arg Leu
 65 70 75 80
 Gly Ile Gly Tyr Leu Ala Gln Glu Pro Thr Ile Phe Lys Glu Leu Thr
 85 90 95
 Val Gln Asp Asn Leu Ile Cys Ile Leu Glu Ile Ile Tyr Lys Ala Arg
 100 105 110
 Lys Gln Gln Ser His Leu Leu Asn Thr Leu Val Asp Asp Leu Gln Leu
 115 120 125
 Gly Ser Cys Leu His Lys Lys Ala Gly Thr Leu Ser Gly Gly Glu Arg
 130 135 140
 Arg Arg Leu Glu Ile Ala Cys Val Leu Ala Leu Asn Pro Ser Val Leu
 145 150 155 160

Leu Leu Asp Glu Pro Phe Ala Asn Val Asp Pro Leu Val Ile Gln Asn
 165 170 175
 Val Lys Tyr Leu Ile Lys Ile Leu Ala Gly Arg Gly Ile Gly Ile Leu
 180 185 190
 Ile Thr Asp His Asn Ala Lys Glu Leu Leu Ser Ile Ala Asp Arg Cys
 195 200 205
 Tyr Leu Ile Ile Asp Gly Lys Ile Phe Phe Glu Gly Ser Ser Ser Gln
 210 215 220
 Met Ile Ser Asn Pro Met Val Lys Gln His Tyr Leu Gly Asp Ser Phe
 225 230 235 240
 Ser Tyr

<210> 726
 <211> 299
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0724

<400> 726
 Arg Thr Ser Thr Arg Leu Asp Tyr Arg Ser Gly Cys Ile Leu Ser Lys
 1 5 10 15
 Ile Leu Pro Phe Pro Glu Leu Trp Lys Met Leu Leu Gly Phe Leu Cys
 20 25 30
 Asp Cys Pro Cys Ala Ser Trp Gln Cys Ala Ala Val Ala Asn Cys Tyr
 35 40 45
 Asp Ser Val Phe Met Ser Arg Pro Glu His Lys Pro Asn Ile Pro Tyr
 50 55 60
 Ile Thr Lys Ala Thr Arg Arg Gly Leu Arg Met Lys Thr Leu Ala Tyr
 65 70 75 80
 Leu Ala Ser Leu Lys Asp Ala Arg Gln Leu Ala Tyr Asp Phe Leu Lys
 85 90 95
 Asp Pro Gly Ser Leu Ala Arg Leu Ala Lys Ala Leu Ile Ala Pro Lys
 100 105 110
 Glu Ala Leu Gln Glu Gly Asn Leu Phe Phe Tyr Gly Cys Ser Asn Ile
 115 120 125
 Glu Asp Ile Leu Glu Glu Met Arg Arg Pro His Arg Ile Leu Leu Leu
 130 135 140
 Gly Phe Ser Tyr Cys Gln Lys Pro Lys Ala Cys Pro Glu Gly Arg Phe
 145 150 155 160
 Asn Asp Ala Cys Arg Tyr Asp Pro Ser His Pro Thr Cys Ala Ser Cys
 165 170 175
 Ser Ile Gly Thr Met Met Arg Leu Asn Ala Arg Arg Tyr Thr Thr Val
 180 185 190
 Ile Ile Pro Thr Phe Ile Asp Ile Ala Lys His Leu His Thr Leu Lys
 195 200 205
 Lys Arg Tyr Pro Gly Tyr Gln Ile Leu Phe Ala Val Thr Ala Cys Glu
 210 215 220
 Leu Ser Leu Lys Met Phe Gly Asp Tyr Ala Ser Val Met Asn Leu Lys
 225 230 235 240
 Gly Val Gly Ile Arg Leu Thr Gly Arg Ile Cys Asn Thr Phe Lys Ala
 245 250 255
 Phe Lys Leu Ala Glu Arg Gly Val Lys Pro Gly Val Thr Ile Leu Glu
 260 265 270
 Glu Asp Gly Phe Glu Val Leu Ala Arg Ile Leu Thr Glu Tyr Ser Ser
 275 280 285
 Ala Pro Phe Pro Arg Asp Phe Cys Glu Ile His
 290 295

<210> 727
 <211> 81
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0725

<400> 727
 Ser Cys Gly Asp Val Gly Met Phe Phe Ala Pro Leu Leu Tyr Glu Ser
 1 5 10 15
 Leu Arg Arg Gly Leu Met His Pro Thr Ser His Met Gln Gln Gln Leu
 20 25 30
 Ala Arg Leu Glu Phe Ile Asn Asp Gln Leu Thr Thr Glu Leu Glu His
 35 40 45
 Val Asn Glu Leu Leu Cys Ser Leu Gly Phe Pro Glu Gly Leu Thr Thr
 50 55 60
 Ile Lys Ala Ile Ala Glu Glu Val Leu Ser Asp Asp Glu Pro Leu Leu
 65 70 75 80
 Asp

<210> 728
 <211> 835
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0726

<400> 728
 Ala Asp Ile Asp Met Ile Tyr Ser Thr Ser Ile Ser Thr Phe Tyr Lys
 1 5 10 15
 Lys Leu Ser Leu Val Ser Ser Met His Ser Phe Ala Gln Arg His Arg
 20 25 30
 Glu Ser Leu Glu His Ile Ala Asn Tyr Glu Lys Thr Thr Ala Glu Arg
 35 40 45
 Asp Ile Leu Lys Arg Leu Ile Glu Val Leu Asp Gln Arg Ala Ser Glu
 50 55 60
 Arg Tyr Arg Ser Ala Val Glu Lys Leu His Lys Tyr Glu Val Glu Arg
 65 70 75 80
 Ala Thr Val Ala Lys Ser Ile Pro Val Ala Ala Ile His Glu Lys Pro
 85 90 95
 Leu Ser Ser Thr His Ala Ser Val Gln Val Thr Ala Ser Thr Pro Ala
 100 105 110
 Ala Thr Gly Ser Gly Val Gly Ala Tyr Tyr Asn Ala Val Lys Gln Lys
 115 120 125
 Trp Ala Gln Asp Leu Ile Val Glu Leu Asn Thr Val Met Thr Thr Ile
 130 135 140
 Met Ala Ser Val Asn Ser Lys Asn Pro Ala Asn Lys Asp Val Phe Asp
 145 150 155 160
 Lys Leu Asn Thr Glu Leu Gln Ala Leu Val Ala Ala Gly Asn Asn Leu
 165 170 175
 Thr Glu Glu Asn Phe Gln Thr Leu Tyr Asn Phe Pro Glu Glu Ile Phe
 180 185 190
 Thr Ala Ile Gln Arg Ala Asp Thr Phe Thr Gly Gly Met Lys Thr Asp
 195 200 205
 Phe Thr Asn Gln Leu Ala Gly Lys Tyr Gly Asn Gln Ala Thr Leu Thr
 210 215 220
 Gln Thr Phe Ala Asp Gly Arg Val Glu Gly Phe Lys Asp Ile Leu Thr
 225 230 235 240

Ala	Val	Gln	Gly	Val	Leu	Thr	Pro	Glu	Gln	Phe	Thr	Ile	Phe	Ala	Glu	245	250	255
Ile	Ala	Thr	Glu	Leu	Gln	Ala	Leu	Ala	Asp	His	Val	Gly	Asn	Phe	Asp	260	265	270
Glu	Ala	Gly	Leu	Gln	Arg	Ile	Glu	Asp	Ala	Gly	Glu	Lys	Leu	Ala	Ala	275	280	285
Val	Ile	Asn	Ser	Ser	Asp	Leu	Thr	Arg	Asn	Asp	Lys	Ile	Met	Phe	Cys	290	295	300
Gln	His	Ile	Thr	Asp	Leu	Tyr	Ser	Asp	Gln	Val	Ala	Ala	Leu	Gly	Ser	305	310	315
Phe	Asp	Thr	Val	Leu	Asp	Ala	Ser	Ile	Tyr	Val	Asn	Gln	His	Gln	Gly	325	330	335
Thr	Met	Phe	Ser	Asn	Leu	Ser	Ser	Phe	Val	Gly	Ser	Leu	Ile	Gly	Thr	340	345	350
Phe	Ala	Pro	Ile	Asp	Leu	Ser	Ser	Ser	Gln	Gly	Asp	Ile	Ser	Ser	Ala	355	360	365
Ala	Leu	Ala	Gly	Ala	Leu	Gln	Thr	Ala	Arg	Gly	Leu	Asn	Ser	Arg	Phe	370	375	380
Asn	Glu	Leu	Thr	Ala	Glu	Gln	Gln	Lys	Leu	Ile	Asn	Glu	Cys	Ile	Lys	385	390	395
Ser	Leu	Val	Thr	Phe	Lys	Cys	Gly	Glu	His	Leu	Gly	Ala	Ile	Trp	Ala	405	410	415
Tyr	Phe	Thr	Ala	Ser	Thr	Val	Val	Ala	Leu	Asn	Pro	Thr	Ala	Thr	Met	420	425	430
Asp	His	Val	Lys	Ala	Ala	Ile	Leu	Glu	Glu	Ala	Lys	Glu	Leu	Asp	Asn	435	440	445
Ser	Ser	Phe	Gln	Leu	Ala	Ser	Ser	Ile	Lys	Ser	Ala	Met	Thr	Ser	Ile	450	455	460
Val	Asn	Ser	Ser	Gly	Ser	Phe	Ser	Val	Thr	Val	Asn	Ser	Ser	Thr	Leu	465	470	475
Gln	Tyr	Thr	Ile	Tyr	Ser	Glu	Lys	Asn	Gly	Lys	Val	Glu	Ile	Asn	Gln	485	490	495
Ile	Leu	Leu	Asn	Tyr	Gly	Ser	Thr	Gly	Phe	Leu	Pro	Glu	Ile	Thr	Lys	500	505	510
Leu	Ala	Lys	Thr	Asn	Ala	Glu	Ser	Thr	Ala	Arg	Ser	Tyr	Phe	Arg	Phe	515	520	525
Lys	Ala	Leu	Ala	Ala	Val	Glu	Ser	Glu	Asn	Val	Gln	Asn	Lys	Ile	Glu	530	535	540
Asp	Leu	Gln	Ser	Gln	Leu	Gln	Gln	Phe	Thr	Asn	Met	Lys	Thr	Glu	Leu	545	550	555
Phe	Asp	Gly	Gln	Leu	Leu	Ser	Gln	Ala	Ser	Glu	Leu	Arg	Ala	Leu	Pro	565	570	575
Leu	Pro	Ser	Ala	Val	Ala	Ser	Val	Leu	Ile	Asp	Arg	Tyr	Met	Pro	Lys	580	585	590
Glu	Val	Asp	Tyr	Leu	Asn	Glu	Ile	Tyr	Lys	Lys	Leu	Tyr	Tyr	Ser	Asn	595	600	605
Leu	Gly	Ser	Ser	Ile	Gly	Asn	Ser	Ile	Ile	Asp	Ala	Ile	Ser	Gln	Tyr	610	615	620
Val	Asn	Gly	Ala	Thr	Tyr	Phe	Asn	Phe	Ala	Ser	Tyr	Val	Gly	Gln	Gln	625	630	635
Pro	Ala	Val	Gly	Ala	Gly	Gly	Ala	Asn	Ala	Phe	Pro	Gly	Ser	Gln	Glu	645	650	655
Ser	Ala	Gln	Ala	Lys	Leu	Asp	Gln	Glu	Arg	Lys	Gln	Ala	Ala	Leu	Tyr	660	665	670
Leu	Gln	Glu	Thr	Arg	Gly	Ala	Leu	Thr	Val	Ile	Glu	Glu	Gln	Arg	Ala	675	680	685
Arg	Val	Leu	Lys	Asp	Asp	Lys	Ile	Thr	Asn	Glu	Gln	Arg	Ser	Thr	Ile	690	695	700
Leu	Asp	Ser	Leu	Arg	Asn	Tyr	Glu	Asp	Asn	Ile	Asn	Ser	Ile	Ser	Gly	705	710	715

Ser Leu Val Leu Leu Gln Asn Tyr Leu Gln Pro Leu Ser Ile Ala Gly
 725 730 735
 Gly Ser Val Ala Gly Thr Phe Glu Val Lys Glu Gly Gln Glu Gln Trp
 740 745 750
 Gln Ala Arg Leu Gln Ile Leu Glu Glu Ala Leu Val Ser Gly Leu Val
 755 760 765
 Gly Asn Met Ile Asn Gly Gly Met Phe Pro Leu Gln Ser Thr Ile Gln
 770 775 780
 Ser Asp Gln Gln Ser Phe Ala Asp Met Gly Gln Asn Phe Gln Leu Asp
 785 790 795 800
 Leu Gln Met His Leu Thr Ser Met Gln Gln Glu Trp Thr Val Val Ala
 805 810 815
 Thr Ser Leu Gln Leu Leu Asn Gln Met Tyr Leu Ser Leu Ala Arg Ser
 820 825 830
 Leu Thr Gly
 835

<210> 729

<211> 878

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0727

<400> 729

Lys Tyr Tyr Leu Phe Ser Met Ser Thr Phe Ser Ile Gln Asn Arg Leu
 1 5 10 15
 Arg Thr Ile Ser Gly Glu Ser Thr Arg Ile Ile Lys Leu Asp His Lys
 20 25 30
 Tyr Ser Gly Phe Asp Pro Arg Ser Val Pro Ala Ile Asn Leu Glu Glu
 35 40 45
 Leu Asn Ser Gly Ile Tyr Ala Leu Arg His Leu Met Asn Ala Leu Gln
 50 55 60
 Ser Glu Asn Thr Asn Val Ala Ala Leu Leu Asn Pro Asn Asn Thr Ile
 65 70 75 80
 Phe Pro Thr Thr Ser Trp Thr Asp Tyr Lys His Ser Arg Pro Gln Ala
 85 90 95
 Ser Ser Pro Arg Ala Pro Ser Ser Gln Thr Pro Thr Asp Ile Val Ser
 100 105 110
 Ala Ala Ala Leu Ala Leu Val Leu Val Ile Asp Gly Gly Leu Ala Glu
 115 120 125
 Leu Val Ala Ser Val Thr Glu Ile Asp Leu Gly Ala Leu Ser Thr Ile
 130 135 140
 Ser Thr Val Arg Gln Leu Met Ala Ser Tyr Leu Gly Leu Thr Thr Leu
 145 150 155 160
 Thr Ala Glu Gln Glu Lys Val Val Phe Ser Ser Ser Tyr Val Pro Ser
 165 170 175
 Glu Lys Asn Leu Leu Glu His Val Lys Gln Glu Lys Ala Ala Glu Ile
 180 185 190
 Gln Ala Lys Gln Glu Glu Ile Lys Ala Val Leu Glu Ala Lys Gly Val
 195 200 205
 Ser Thr Glu Glu Ile Glu Ala Ile Leu Lys Glu Tyr Pro Asp Ile Tyr
 210 215 220
 Ala Ala Asp Phe Phe Lys Glu Phe Ile Glu Glu Pro Leu His Thr Tyr
 225 230 235 240
 Arg Ala Lys Val Gly Ala Pro Ile Gln Glu Met Asn Glu Asn Ala Ile
 245 250 255
 Gln Leu Leu Pro Thr Pro Pro Ala Ile Thr Pro Asp Asn Val Asn Glu
 260 265 270

Val	Asn	Gly	Met	Asn	Thr	Leu	Ser	Thr	Ile	Leu	Gln	Ala	Ile	Asp	Asp	275	280	285
Ala	Ile	Lys	Gln	Ala	Pro	Ala	Leu	Gly	Gly	Asp	Gln	Glu	Ile	Ile	Thr	290	295	300
Ile	Leu	Gln	Thr	Leu	Val	Pro	Leu	Val	Asp	Lys	Thr	Thr	Phe	Thr	Lys	305	310	315
Ala	Glu	Phe	Asp	Leu	Ile	Tyr	Thr	Ala	Thr	Gln	Leu	Pro	Asn	Thr	Ala	325	330	335
Ser	Leu	Lys	Leu	Tyr	Leu	Thr	Asp	Arg	Gln	Ile	Ala	Glu	Tyr	Arg	Gly	340	345	350
Lys	Ile	Thr	Lys	Val	Tyr	Gln	Asn	Ser	Ile	Gln	Asn	Leu	Ser	Glu	Thr	355	360	365
Lys	Arg	Val	Val	Glu	Asn	Asn	Arg	Ser	Met	Leu	Glu	Thr	Gln	Leu	Ser	370	375	380
Met	Phe	Gln	Gln	Ala	Gln	Asn	Cys	Phe	Val	Thr	Trp	Ile	Ser	Gln	Ala	385	390	395
Asn	Ala	Leu	Asn	Ile	Ala	Ile	Thr	Asn	Lys	Tyr	Ile	Ser	Ala	Val	Leu	405	410	415
Thr	Thr	Ser	Met	Glu	Met	Tyr	Gly	Gly	Leu	Leu	Cys	Leu	Ser	Tyr	Met	420	425	430
Tyr	Glu	Arg	Leu	Ala	Asp	Asp	Glu	Lys	Ala	Ile	Phe	Asp	Lys	Ser	Val	435	440	445
Asn	Glu	Tyr	Leu	Pro	Ile	His	Ile	Val	Val	Gly	Gly	Ser	Trp	Val	Asn	450	455	460
Gly	Trp	Ile	Ala	Lys	Met	Ala	Ala	Tyr	Gln	Glu	Leu	Ala	Glu	Tyr	Ser	465	470	475
Leu	Gly	Thr	Ala	Val	Thr	Ser	Gln	Asp	Gln	Ile	Lys	Ala	Tyr	Leu	Gln	485	490	495
Thr	Arg	Gly	Asn	Glu	Phe	Lys	Ala	Thr	Arg	His	Phe	Phe	His	Asn	Ile	500	505	510
Gly	Asp	Gln	Met	Tyr	Gln	Phe	Ala	Asn	Glu	Thr	Val	Phe	Gly	Asn	Cys	515	520	525
Leu	Thr	Thr	Ala	Asn	Gly	Ala	Ile	Gln	Pro	Asp	Leu	Gly	Gly	Phe	Ile	530	535	540
Arg	Glu	Ala	Met	Thr	Asn	Val	Gly	Thr	Val	Glu	Ala	Asp	Tyr	Val	Ser	545	550	555
Asn	Ala	Gln	Arg	Ile	Leu	Asn	Glu	Phe	Asn	Thr	Ala	Ala	Thr	Ala	His	565	570	575
Val	Leu	Gln	Leu	Gln	Leu	Gln	Ile	Ala	Glu	Leu	Gln	Lys	Lys	Ala	Asp	580	585	590
Asp	Leu	Asp	Pro	Gly	Lys	Ala	Ser	Phe	Thr	Glu	Asn	Arg	Lys	Phe	Ala	595	600	605
Val	Ala	Ala	Trp	Ile	Thr	Ser	Glu	Ser	Leu	Gly	Asp	Ala	Leu	Ile	Ser	610	615	620
Met	Ile	Leu	Asn	Ser	Gln	Leu	Pro	Lys	Gln	Glu	Ala	Phe	Leu	Lys	Pro	625	630	635
Leu	Ile	Glu	Glu	Ile	Asn	Phe	Asn	Asn	Leu	Ala	Ala	Asn	Ala	Leu	Asn	645	650	655
Ser	Leu	Leu	Gln	Ile	Thr	Asn	Glu	Phe	Ser	Thr	Thr	Ser	Val	Tyr	Tyr	660	665	670
Ser	Leu	Ser	Ser	Tyr	Leu	Val	Gln	Ser	Lys	Thr	Gly	Gln	Asn	Leu	Phe	675	680	685
Ala	Gly	Asp	Tyr	Tyr	Glu	Thr	Leu	Leu	Ala	Ala	Ala	Arg	Glu	Arg	Glu	690	695	700
Tyr	Ile	Tyr	Arg	Asp	Thr	Ala	Arg	Cys	Lys	Gln	Ala	Ile	Asn	Leu	Val	705	710	715
Asn	Gly	Leu	Leu	Gln	Lys	Ile	Asn	Ser	Leu	Pro	Gly	Ala	Thr	Ser	Ala	725	730	735
Gln	Lys	Gln	Glu	Met	Leu	Asn	Ala	Thr	Thr	Tyr	Tyr	Gln	Tyr	Ser	Leu	740	745	750

Ser	Val	Thr	Leu	Asn	Gln	Leu	Thr	Val	Leu	Glu	Ser	Leu	Leu	Ala	Gly
		755					760					765			
Leu	Lys	Met	Thr	Leu	Gln	Thr	Thr	Ser	Asn	Asn	Lys	Tyr	Asp	Lys	Ser
	770					775						780			
Val	Phe	Lys	Ile	Glu	Ser	Phe	Asp	Asp	Trp	Ile	Pro	Thr	Leu	Ala	Ala
785					790					795					800
Leu	Glu	Ser	Phe	Leu	Thr	Ser	Gly	Phe	Pro	Asn	Ile	Ser	Ala	Thr	Gly
			805						810					815	
Gly	Leu	Gly	Pro	Leu	Phe	Thr	Gln	Val	Gln	Ser	Asp	Gln	Gln	Thr	Tyr
		820						825					830		
Thr	Ser	Gln	Gly	Gln	Thr	Gln	Gln	Leu	Asn	Leu	Gln	Asn	Gln	Met	Thr
	835					840						845			
Thr	Ile	Gln	Gln	Glu	Trp	Thr	Leu	Val	Ser	Thr	Ser	Met	Gln	Val	Leu
	850					855					860				
Asn	Gly	Ile	Leu	Ser	Gln	Leu	Ala	Gly	Ala	Ile	Tyr	Ser	Asn		
865					870					875					

<210> 730
 <211> 653
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0728

Val	Phe	Met	Val	Asn	Pro	Ile	Gly	Pro	Gly	Pro	Ile	Asp	Glu	Thr	Glu
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Arg	Thr	Pro	Pro	Ala	Asp	Leu	Ser	Ala	Gln	Gly	Leu	Glu	Ala	Ser	Ala
			20					25					30		
Ala	Asn	Lys	Ser	Ala	Glu	Ala	Gln	Arg	Ile	Ala	Gly	Ala	Glu	Ala	Lys
	35						40					45			
Pro	Lys	Glu	Ser	Lys	Thr	Asp	Ser	Val	Glu	Arg	Trp	Ser	Ile	Leu	Arg
	50					55					60				
Ser	Ala	Val	Asn	Ala	Leu	Met	Ser	Leu	Ala	Asp	Lys	Leu	Gly	Ile	Ala
65					70					75					80
Ser	Ser	Asn	Ser	Ser	Ser	Ser	Thr	Ser	Arg	Ser	Ala	Asp	Val	Asp	Ser
			85						90					95	
Thr	Thr	Ala	Thr	Ala	Pro	Thr	Pro	Pro	Pro	Pro	Thr	Phe	Asp	Asp	Tyr
		100					105						110		
Lys	Thr	Gln	Ala	Gln	Thr	Ala	Tyr	Asp	Thr	Ile	Phe	Thr	Ser	Thr	Ser
	115						120					125			
Leu	Ala	Asp	Ile	Gln	Ala	Ala	Leu	Val	Ser	Leu	Gln	Asp	Ala	Val	Thr
	130					135					140				
Asn	Ile	Lys	Asp	Thr	Ala	Ala	Thr	Asp	Glu	Glu	Thr	Ala	Ile	Ala	Ala
145					150					155					160
Glu	Trp	Glu	Thr	Lys	Asn	Ala	Asp	Ala	Val	Lys	Val	Gly	Ala	Gln	Ile
			165						170					175	
Thr	Glu	Leu	Ala	Lys	Tyr	Ala	Ser	Asp	Asn	Gln	Ala	Ile	Leu	Asp	Ser
		180						185						190	
Leu	Gly	Lys	Leu	Thr	Ser	Phe	Asp	Leu	Leu	Gln	Ala	Ala	Leu	Leu	Gln
	195						200					205			
Ser	Val	Ala	Asn	Asn	Asn	Lys	Ala	Ala	Glu	Leu	Leu	Lys	Glu	Met	Gln
	210					215						220			
Asp	Asn	Pro	Val	Val	Pro	Gly	Lys	Thr	Pro	Ala	Ile	Ala	Gln	Ser	Leu
225					230					235					240
Val	Asp	Gln	Thr	Asp	Ala	Thr	Ala	Thr	Gln	Ile	Glu	Lys	Asp	Gly	Asn
			245						250					255	
Ala	Ile	Arg	Asp	Ala	Tyr	Phe	Ala	Gly	Gln	Asn	Ala	Ser	Gly	Ala	Val
			260					265						270	

Glu Asn Ala Lys Ser Asn Asn Ser Ile Ser Asn Ile Asp Ser Ala Lys
 275 280 285
 Ala Ala Ile Ala Thr Ala Lys Thr Gln Ile Ala Glu Ala Gln Lys Lys
 290 295 300
 Phe Pro Asp Ser Pro Ile Leu Gln Glu Ala Glu Gln Met Val Ile Gln
 305 310 315 320
 Ala Glu Lys Asp Leu Lys Asn Ile Lys Pro Ala Asp Gly Ser Asp Val
 325 330 335
 Pro Asn Pro Gly Thr Thr Val Gly Gly Ser Lys Gln Gln Gly Ser Ser
 340 345 350
 Ile Gly Ser Ile Arg Val Ser Met Leu Leu Asp Asp Ala Glu Asn Glu
 355 360 365
 Thr Ala Ser Ile Leu Met Ser Gly Phe Arg Gln Met Ile His Met Phe
 370 375 380
 Asn Thr Glu Asn Pro Asp Ser Gln Ala Ala Gln Gln Glu Leu Ala Ala
 385 390 395 400
 Gln Ala Arg Ala Ala Lys Ala Ala Gly Asp Asp Ser Ala Ala Ala Ala
 405 410 415
 Leu Ala Asp Ala Gln Lys Ala Leu Glu Ala Ala Leu Gly Lys Ala Gly
 420 425 430
 Gln Gln Gln Gly Ile Leu Asn Ala Leu Gly Gln Ile Ala Ser Ala Ala
 435 440 445
 Val Val Ser Ala Gly Val Pro Pro Ala Ala Ala Ser Ser Ile Gly Ser
 450 455 460
 Ser Val Lys Gln Leu Tyr Lys Thr Ser Lys Ser Thr Gly Ser Asp Tyr
 465 470 475 480
 Lys Thr Gln Ile Ser Ala Gly Tyr Asp Ala Tyr Lys Ser Ile Asn Asp
 485 490 495
 Ala Tyr Gly Arg Ala Arg Asn Asp Ala Thr Arg Asp Val Ile Asn Asn
 500 505 510
 Val Ser Thr Pro Ala Leu Thr Arg Ser Val Pro Arg Ala Arg Thr Glu
 515 520 525
 Ala Arg Gly Pro Glu Lys Thr Asp Gln Ala Leu Ala Arg Val Ile Ser
 530 535 540
 Gly Asn Ser Arg Thr Leu Gly Asp Val Tyr Ser Gln Val Ser Ala Leu
 545 550 555 560
 Gln Ser Val Met Gln Ile Ile Gln Ser Asn Pro Gln Ala Asn Asn Glu
 565 570 575
 Glu Ile Arg Gln Lys Leu Thr Ser Ala Val Thr Lys Pro Pro Gln Phe
 580 585 590
 Gly Tyr Pro Tyr Val Gln Leu Ser Asn Asp Ser Thr Gln Lys Phe Ile
 595 600 605
 Ala Lys Leu Glu Ser Leu Phe Ala Glu Gly Ser Arg Thr Ala Ala Glu
 610 615 620
 Ile Lys Ala Leu Ser Phe Glu Thr Asn Ser Leu Phe Ile Gln Gln Val
 625 630 635 640
 Leu Val Asn Ile Gly Ser Leu Tyr Ser Gly Tyr Leu Gln
 645 650

<210> 731
 <211> 438
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0729

<400> 731
 Pro Ala Trp Ser Ser Val Ser Thr Leu Asn Ile Asp Thr Lys Asp Thr
 1 5 10 15

Met Lys Lys Gln Val Tyr Gln Trp Leu Ala Ser Val Val Leu Leu Ala
 20 25 30
 Leu Thr Ile Ser Gly Tyr Ala Glu Leu Pro Leu Ser Glu Gln Lys Val
 35 40 45
 Lys Ser His Thr Tyr Thr Thr Leu Asp Glu Val Lys Asp Tyr Leu Ser
 50 55 60
 Lys Arg Gly Phe Val Glu Thr Arg Lys Gln Asp Gly Val Leu Arg Ile
 65 70 75 80
 Ala Gly Asp Val Arg Ala Arg Trp Leu Tyr Phe Arg Glu Asp Ile Lys
 85 90 95
 Asn Pro Ser Asp Lys Asp Lys Tyr Asn Pro Leu Pro Val Asn Arg Tyr
 100 105 110
 Arg Ser Glu Phe Tyr Leu Tyr Ile Asp Tyr Arg Ala Glu Arg Asn Trp
 115 120 125
 Leu Ser Ser Lys Met Asn Trp Thr Ala Ile Ala Gly Gly Glu Asn Thr
 130 135 140
 Ala Ala Gly Val Asp Ile Asn Arg Ala Phe Leu Gly Tyr Arg Phe Tyr
 145 150 155 160
 Lys Asn Pro Glu Thr Arg Thr Asp Phe Phe Met Glu Ile Gly Arg Ser
 165 170 175
 Gly Leu Gly Asp Leu Phe Glu Ser Glu Val Gln Phe Gln Ser Asn Phe
 180 185 190
 Asp Gly Leu His Ile Tyr Trp Thr Arg Glu Leu Ser Lys Asp Tyr Pro
 195 200 205
 Tyr Gln Val Ile Val His Gly Gly Pro Phe Val Val Asn Met Thr Lys
 210 215 220
 Lys His Tyr Ala Trp Val Val Glu Gly Ile Leu Asn Arg Leu Pro Lys
 225 230 235 240
 Gln Phe Phe Val Lys Cys Ser Val Val Asp Trp Asn Thr Phe Val Pro
 245 250 255
 Ser Glu Thr Ser Thr Thr Glu Lys Ala Ala Thr Asn Ala Met Lys Tyr
 260 265 270
 Lys Tyr Cys Val Trp Gln Trp Leu Val Gly Lys His Ser Gln Val Pro
 275 280 285
 Trp Ile Asn Gly Gln Lys Lys Pro Leu Tyr Leu Tyr Gly Ala Phe Leu
 290 295 300
 Met Asn Pro Leu Ala Lys Ala Thr Lys Thr Thr Leu Asn Gly Lys Glu
 305 310 315 320
 Asn Leu Ala Trp Phe Ile Gly Gly Thr Leu Gly Gly Leu Arg Lys Ala
 325 330 335
 Gly Asp Trp Ser Ala Thr Val Arg Tyr Glu Tyr Val Glu Ala Leu Ser
 340 345 350
 Val Pro Glu Ile Asp Val Ser Gly Ile Gly Arg Gly Asn Leu Leu Lys
 355 360 365
 Phe Trp Phe Ala Gln Ala Ile Ala Ala Asn Tyr Asp Pro Lys Glu Ala
 370 375 380
 Asn Gly Phe Thr Asn Tyr Lys Gly Phe Ser Ala Leu Tyr Met Tyr Gly
 385 390 395 400
 Ile Thr Asp Ser Leu Ser Phe Arg Ala Tyr Gly Ala Tyr Ser Lys Pro
 405 410 415
 Ala Asn Asp Lys Leu Gly Ser Asp Phe Thr Phe Arg Lys Phe Asp Leu
 420 425 430
 Gly Ile Ile Ser Ala Phe
 435

<210> 732

<211> 558

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0730

<400> 732

Ser	Cys	Phe	Lys	Gly	Gly	Gly	Glu	Asn	Gly	Leu	Met	Ser	Arg	Lys	Asp
1			5					10						15	
Asn	Glu	Val	Ser	Leu	Ala	Arg	Ser	Ile	Phe	Asn	Ile	Leu	Ser	Gly	Thr
			20					25					30		
Phe	Cys	Ser	Arg	Ile	Thr	Gly	Ile	Phe	Arg	Glu	Ile	Ala	Met	Ala	Thr
			35				40					45			
Tyr	Phe	Gly	Ala	Asp	Pro	Ile	Val	Ala	Ala	Phe	Trp	Leu	Gly	Phe	Arg
	50					55					60				
Thr	Val	Phe	Phe	Leu	Arg	Lys	Ile	Leu	Gly	Gly	Leu	Ile	Leu	Glu	Gln
65					70					75					80
Ala	Phe	Ile	Pro	His	Phe	Glu	Phe	Leu	Arg	Ala	Gln	Ser	Leu	Asp	Arg
				85					90					95	
Ala	Ala	Phe	Phe	Phe	Arg	Arg	Phe	Ser	Arg	Leu	Ile	Lys	Gly	Ser	Thr
			100					105					110		
Ile	Ile	Phe	Thr	Leu	Leu	Ile	Glu	Ala	Val	Leu	Trp	Val	Val	Leu	Gln
		115					120					125			
Tyr	Val	Glu	Glu	Gly	Thr	Tyr	Asp	Met	Ile	Leu	Leu	Thr	Met	Ile	Leu
	130					135					140				
Leu	Pro	Cys	Gly	Ile	Phe	Leu	Met	Met	Tyr	Asn	Val	Asn	Gly	Ala	Leu
145					150					155					160
Leu	His	Cys	Glu	Asn	Lys	Phe	Phe	Gly	Val	Gly	Leu	Ala	Pro	Val	Val
				165				170						175	
Val	Asn	Ile	Ile	Trp	Ile	Phe	Phe	Val	Ile	Ala	Ala	Arg	His	Ser	Asp
			180					185					190		
Pro	Arg	Glu	Arg	Ile	Ile	Gly	Leu	Ser	Val	Ala	Leu	Val	Ile	Gly	Phe
		195					200					205			
Phe	Phe	Glu	Trp	Leu	Ile	Thr	Val	Pro	Gly	Val	Trp	Lys	Phe	Leu	Leu
	210					215					220				
Glu	Ala	Lys	Ser	Pro	Pro	Gln	Glu	His	Asp	Ser	Val	Arg	Ala	Leu	Leu
225					230					235					240
Ala	Pro	Leu	Ser	Leu	Gly	Ile	Leu	Thr	Ser	Ser	Ile	Phe	Gln	Leu	Asn
				245					250					255	
Leu	Leu	Ser	Asp	Ile	Cys	Leu	Ala	Arg	Tyr	Val	His	Glu	Ile	Gly	Pro
			260					265					270		
Leu	Tyr	Leu	Met	Tyr	Ser	Leu	Lys	Ile	Tyr	Gln	Leu	Pro	Ile	His	Leu
		275					280					285			
Phe	Gly	Phe	Gly	Val	Phe	Thr	Val	Leu	Leu	Pro	Ala	Ile	Ser	Arg	Cys
	290					295					300				
Val	Gln	Arg	Glu	Asp	His	Glu	Arg	Gly	Leu	Lys	Leu	Met	Lys	Phe	Val
305					310					315					320
Leu	Thr	Leu	Thr	Met	Ser	Val	Met	Ile	Ile	Met	Thr	Ala	Gly	Leu	Leu
				325					330					335	
Leu	Leu	Ala	Leu	Pro	Gly	Val	Arg	Val	Leu	Tyr	Glu	His	Gly	Leu	Phe
			340					345					350		
Pro	Gln	Ser	Ala	Val	Tyr	Ala	Ile	Val	Arg	Val	Leu	Arg	Gly	Tyr	Gly
		355					360					365			
Ala	Ser	Ile	Ile	Pro	Met	Ala	Leu	Ala	Pro	Leu	Val	Ser	Val	Leu	Phe
		370				375					380				
Tyr	Ala	Gln	Arg	Gln	Tyr	Ala	Val	Pro	Leu	Phe	Ile	Gly	Ile	Gly	Thr
385					390					395					400
Ala	Leu	Ala	Asn	Ile	Val	Leu	Ser	Leu	Val	Leu	Gly	Arg	Trp	Val	Leu
				405					410					415	
Lys	Asp	Val	Ser	Gly	Ile	Ser	Tyr	Ala	Thr	Ser	Ile	Thr	Ala	Trp	Val
			420					425					430		
Gln	Leu	Tyr	Phe	Leu	Trp	Tyr	Tyr	Ser	Ser	Lys	Arg	Leu	Pro	Met	Tyr
		435					440					445			

Ser Lys Leu Leu Trp Glu Ser Ile Arg Arg Ser Ile Lys Val Met Gly
 450 455 460
 Thr Thr Met Leu Ala Cys Met Ile Thr Leu Gly Leu Asn Ile Leu Thr
 465 470 475 480
 Gln Thr Thr Tyr Val Ile Phe Leu Asn Pro Leu Thr Pro Leu Ala Trp
 485 490 495
 Pro Leu Ser Ser Ile Thr Ala Gln Ala Ile Ala Phe Leu Ser Glu Ser
 500 505 510
 Cys Ile Phe Leu Ala Phe Leu Phe Gly Phe Ala Lys Leu Leu Arg Val
 515 520 525
 Glu Asp Leu Ile Asn Leu Ala Ser Phe Glu Tyr Trp Arg Gly Gln Arg
 530 535 540
 Gly Leu Leu Gln Arg Gln His Val Met Gln Asp Thr Gln Asn
 545 550 555

<210> 733
 <211> 90
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0731

<400> 733
 Val Ala Ile Ala Ile Ser Arg Asn Ile Pro Val Ile Arg Leu Gln Lys
 1 5 10 15
 Val Pro Asp Asn Ile Leu Lys Ile Glu Arg Ala Lys Glu Thr Ser Leu
 20 25 30
 Met Ser Phe Leu Leu Ile Lys Pro Phe Ser Pro Pro Pro Lys Gln
 35 40 45
 Asp Tyr Leu Phe Asp Ile Ser Pro Tyr Thr Ser Ser Glu Ile Thr Ile
 50 55 60
 Gly Gly Ser Tyr Phe Lys Leu Asn Lys Ala Ser Leu Gln Ser Ser Thr
 65 70 75 80
 Leu Arg Leu Arg Ser Ile Ser Ile Ile Ser
 85 90

<210> 734
 <211> 295
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0732

<400> 734
 Asn Phe Met Lys Val Leu Pro Pro Pro Ser Ile Pro Leu Leu Gly Ala
 1 5 10 15
 His Thr Ser Thr Ala Gly Gly Leu Lys Asn Ala Ile Tyr Glu Gly Arg
 20 25 30
 Asp Ile Gly Ala Ser Thr Val Gln Ile Phe Thr Ala Asn Gln Arg Gln
 35 40 45
 Trp Gln Arg Arg Ala Leu Lys Glu Glu Val Ile Glu Asp Phe Lys Ala
 50 55 60
 Ala Leu Lys Glu Thr Asp Leu Ser Tyr Ile Met Ser His Ala Gly Tyr
 65 70 75 80
 Leu Ile Asn Pro Gly Ala Pro Asp Pro Val Ile Leu Glu Lys Ser Arg
 85 90 95
 Ile Gly Ile Tyr Gln Glu Ile Leu Asp Cys Ile Thr Leu Gly Ile Ser
 100 105 110

Phe	Val	Asn	Phe	His	Pro	Gly	Ala	Ala	Leu	Lys	Ser	Ser	Lys	Glu	Asp
		115					120					125			
Cys	Met	Asn	Lys	Ile	Val	Ser	Ser	Phe	Ser	Gln	Ser	Ala	Pro	Leu	Phe
	130					135					140				
Asp	Ser	Ser	Pro	Pro	Leu	Val	Val	Leu	Leu	Glu	Thr	Thr	Ala	Gly	Gln
145					150					155					160
Gly	Thr	Leu	Ile	Gly	Ser	Asn	Phe	Glu	Glu	Leu	Gly	Tyr	Leu	Val	Gln
			165							170					175
Asn	Leu	Lys	Asn	Gln	Ile	Pro	Ile	Gly	Val	Cys	Val	Asp	Thr	Cys	His
			180					185					190		
Ile	Phe	Ala	Ala	Gly	Tyr	Asp	Ile	Thr	Ser	Pro	Gln	Gly	Trp	Glu	Asp
	195					200					205				
Val	Leu	Asn	Glu	Phe	Asp	Glu	Tyr	Val	Gly	Leu	Ser	Tyr	Leu	Arg	Ala
	210					215					220				
Phe	His	Leu	Asn	Asp	Ser	Met	Phe	Pro	Leu	Gly	Ala	Asn	Lys	Asp	Arg
225					230					235					240
His	Ala	Pro	Leu	Gly	Glu	Gly	Tyr	Ile	Gly	Lys	Glu	Ser	Phe	Lys	Phe
				245					250					255	
Leu	Met	Thr	Asp	Glu	Arg	Thr	Arg	Lys	Ile	Pro	Lys	Tyr	Leu	Glu	Thr
			260					265					270		
Pro	Gly	Gly	Pro	Glu	Asn	Trp	Gln	Lys	Glu	Ile	Gly	Glu	Leu	Leu	Lys
		275					280					285			
Phe	Ser	Lys	Asn	Arg	Asp	Ser									
	290					295									

<210> 735

<211> 213

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0733

<400> 735

Gly	Leu	Lys	Tyr	Met	Ala	Arg	Tyr	Cys	Gly	Pro	Lys	Asn	Arg	Val	Ala
1				5					10					15	
Arg	Arg	Phe	Gly	Ala	Asn	Ile	Phe	Gly	Arg	Ser	Arg	Asn	Pro	Leu	Leu
			20					25					30		
Lys	Lys	Pro	His	Pro	Pro	Gly	Gln	His	Gly	Met	Gln	Arg	Lys	Lys	Lys
		35				40					45				
Ser	Asp	Tyr	Gly	Leu	Gln	Leu	Glu	Glu	Lys	Gln	Lys	Leu	Lys	Ala	Cys
	50					55					60				
Tyr	Gly	Met	Ile	Met	Glu	Lys	Gln	Leu	Val	Lys	Ala	Phe	Lys	Glu	Val
65					70					75				80	
Ile	His	Lys	Gln	Gly	Asn	Val	Ala	Gln	Met	Phe	Leu	Glu	Arg	Phe	Glu
			85					90						95	
Cys	Arg	Leu	Asp	Asn	Met	Val	Tyr	Arg	Met	Gly	Phe	Ala	Lys	Thr	Ile
			100					105					110		
Phe	Ala	Ala	Gln	Gln	Leu	Val	Ala	His	Gly	His	Ile	Leu	Val	Asn	Gly
	115						120					125			
Arg	Arg	Val	Asp	Arg	Arg	Ser	Phe	Phe	Leu	Arg	Pro	Gly	Met	Gln	Ile
	130					135					140				
Ser	Leu	Lys	Glu	Lys	Ser	Lys	Arg	Leu	Gln	Ser	Val	Lys	Asp	Ala	Leu
145					150					155					160
Glu	Ser	Lys	Asp	Glu	Ser	Ser	Leu	Pro	Ser	Tyr	Ile	Ser	Leu	Asp	Lys
			165						170					175	
Thr	Gly	Phe	Lys	Gly	Glu	Leu	Leu	Val	Ser	Pro	Glu	Gln	Asp	Gln	Ile
			180					185					190		
Glu	Ala	Gln	Leu	Pro	Leu	Pro	Ile	Asn	Ile	Ser	Val	Val	Cys	Glu	Phe
	195						200					205			

Leu Ser His Arg Thr
210

<210> 736
<211> 351
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0734

<400> 736

Gln	Asn	Thr	Lys	Glu	His	Phe	Ser	Ser	Asn	Gly	Asn	Phe	Leu	Gln	Cys
1				5					10					15	
Asn	Tyr	Phe	Gln	Asp	Tyr	Val	Arg	Val	Phe	Ile	Met	Glu	Lys	Lys	Tyr
			20					25					30		
Tyr	Ala	Leu	Ala	Tyr	Tyr	Tyr	Ile	Thr	Arg	Val	Asp	Asn	Pro	His	Glu
		35					40					45			
Glu	Ile	Ala	Leu	His	Lys	Lys	Phe	Leu	Glu	Asp	Leu	Asp	Val	Ser	Cys
	50				55					60					
Arg	Ile	Tyr	Ile	Ser	Glu	Gln	Gly	Ile	Asn	Gly	Gln	Phe	Ser	Gly	Tyr
65					70				75						80
Glu	Pro	His	Ala	Glu	Leu	Tyr	Met	Gln	Trp	Leu	Lys	Glu	Arg	Pro	Asn
			85					90					95		
Phe	Ser	Lys	Ile	Lys	Phe	Lys	Ile	His	His	Ile	Lys	Glu	Asn	Ile	Phe
			100				105						110		
Pro	Arg	Ile	Thr	Val	Lys	Tyr	Arg	Lys	Glu	Leu	Ala	Ala	Leu	Gly	Cys
		115					120					125			
Glu	Val	Asp	Leu	Ser	Lys	Gln	Ala	Lys	His	Ile	Ser	Pro	Gln	Glu	Trp
		130				135					140				
His	Glu	Lys	Leu	Gln	Glu	Asn	Arg	Cys	Leu	Ile	Leu	Asp	Val	Arg	Asn
145					150					155					160
Asn	Tyr	Glu	Trp	Lys	Ile	Gly	His	Phe	Asp	Asn	Ala	Thr	Leu	Pro	Asp
			165						170					175	
Ile	Gln	Thr	Phe	Arg	Glu	Phe	Pro	Glu	Tyr	Ala	Glu	Lys	Leu	Ala	Gln
			180					185					190		
Glu	Cys	Asp	Pro	Glu	Thr	Thr	Pro	Val	Met	Met	Tyr	Cys	Thr	Gly	Gly
		195					200					205			
Ile	Arg	Cys	Glu	Leu	Tyr	Ser	Pro	Val	Leu	Leu	Glu	Lys	Gly	Phe	Lys
	210					215					220				
Glu	Val	Tyr	Gln	Leu	Asp	Gly	Gly	Val	Ile	Ala	Tyr	Gly	Gln	Gln	Val
225					230					235					240
Gly	Thr	Gly	Lys	Trp	Leu	Gly	Lys	Leu	Phe	Val	Phe	Asp	Asp	Arg	Leu
			245						250					255	
Ala	Ile	Pro	Ile	Asp	Glu	Ser	Asp	Pro	Asp	Val	Ala	Pro	Ile	Ala	Glu
			260					265					270		
Cys	Cys	His	Cys	Gln	Thr	Pro	Ser	Asp	Ala	Tyr	Tyr	Asn	Cys	Ala	Asn
		275					280					285			
Thr	Asp	Cys	Asn	Ala	Leu	Phe	Leu	Cys	Cys	Asp	Glu	Cys	Ile	His	Gln
	290					295					300				
His	Gln	Gly	Cys	Cys	Gly	Glu	Glu	Cys	Ser	Gln	Ser	Pro	Arg	Val	Arg
305					310					315					320
Lys	Phe	Asp	Ser	Ser	Arg	Gly	Asn	Lys	Pro	Phe	Arg	Arg	Ala	His	Leu
				325					330					335	
Cys	Glu	Ile	Ser	Glu	Asn	Ser	Glu	Ser	Ala	Ser	Cys	Cys	Leu	Ile	
			340					345					350		

<210> 737
<211> 226
<212> PRT
<213> Chlamydia pneumoniae

<220>

<223> CPn0735

<400> 737

Gly Glu Lys Phe Met Leu Met Met Leu Met Met Ile Ile Gly Ile Thr
1 5 10 15
Gly Gly Ser Gly Ala Gly Lys Thr Thr Leu Thr Gln Asn Ile Lys Glu
20 25 30
Ile Phe Gly Glu Asp Val Ser Val Ile Cys Gln Asp Asn Tyr Tyr Lys
35 40 45
Asp Arg Ser His Tyr Thr Pro Glu Glu Arg Ala Asn Leu Ile Trp Asp
50 55 60
His Pro Asp Ala Phe Asp Asn Asp Leu Leu Ile Ser Asp Ile Lys Arg
65 70 75 80
Leu Lys Asn Asn Glu Ile Val Gln Ala Pro Val Phe Asp Phe Val Leu
85 90 95
Gly Asn Arg Ser Lys Thr Glu Ile Glu Thr Ile Tyr Pro Ser Lys Val
100 105 110
Ile Leu Val Glu Gly Ile Leu Val Phe Glu Asn Gln Glu Leu Arg Asp
115 120 125
Leu Met Asp Ile Arg Ile Phe Val Asp Thr Asp Ala Asp Glu Arg Ile
130 135 140
Leu Arg Arg Met Val Arg Asp Val Gln Glu Gln Gly Asp Ser Val Asp
145 150 155 160
Cys Ile Met Ser Arg Tyr Leu Ser Met Val Lys Pro Met His Glu Lys
165 170 175
Phe Ile Glu Pro Thr Arg Lys Tyr Ala Asp Ile Ile Val His Gly Asn
180 185 190
Tyr Arg Gln Asn Val Val Thr Asn Ile Leu Ser Gln Lys Ile Lys Asn
195 200 205
His Leu Glu Asn Ala Leu Glu Ser Asp Glu Thr Tyr Tyr Met Val Asn
210 215 220
Ser Lys
225

<210> 738

<211> 580

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0736

<400> 738

Arg Gly Glu Leu Leu Lys Leu Ala Arg Gln Cys Leu Val Ala Phe Met
1 5 10 15
Thr Val Ser Val Lys Lys Lys Ser Phe Arg Ala Leu Val Thr Thr His
20 25 30
Phe Leu Thr Ile Ile Asn Asp Asn Leu Tyr Lys Phe Leu Leu Ala Phe
35 40 45
Phe Leu Leu Glu Gly Lys Thr Leu Thr Glu Asn Ala Lys Ile Leu Ser
50 55 60
Cys Val Ser Phe Phe Phe Ala Leu Pro Phe Leu Leu Leu Ala Pro Leu
65 70 75 80
Ala Gly Ser Leu Ala Asp Arg Phe Gln Lys Arg Asn Ile Ile Leu Ala
85 90 95
Thr Arg Phe Ile Glu Ile Leu Cys Thr Ile Leu Gly Thr Tyr Phe Phe
100 105 110
Phe Ile Gln Ser Val Val Gly Gly Tyr Val Val Leu Ile Leu Met Ala
115 120 125

<210> 739
 <211> 1096
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0737

<400> 739
 Lys Arg Ser Ala Lys Leu Pro Ala Ser Gly Ala Ser Lys Arg Lys Gly
 1 5 10 15
 Arg Ala Lys Lys Leu Thr Gln Glu Arg Ile Phe Ala Phe Ser Val
 20 25 30
 Arg Val Leu Pro Ser Asn Arg Lys Asn Ala Lys Arg Asn Leu Tyr Lys
 35 40 45
 Leu Ser Phe Ile Ile Val Arg Lys Cys Val Val Thr Ser Ala Leu Asn
 50 55 60
 Asp Phe Phe Leu Thr Glu Thr Val Met Asn Ala Thr Lys His Cys Arg
 65 70 75 80
 Ala Ser Phe Ser Asn Ser Pro Arg His Leu Leu Ala Gln Leu Ala Glu
 85 90 95
 Asp Ile Thr Ser Thr His Gln Lys Pro Phe Thr Lys Arg Trp Ile Leu
 100 105 110
 Val Ala Asn Ala Thr Thr Gly His Trp Ile Lys Asn Gln Leu Val His
 115 120 125
 Val Leu Ser Asp His Ile Phe Met Gly Ser Thr Ile Phe Thr Ala Ser
 130 135 140
 Asp Ser Ile Val Lys His Leu Phe Leu Gly Ser Gly Cys Ser Gln Pro
 145 150 155 160
 Asn Ile Pro Asp Tyr Leu Thr Leu Pro Leu Leu Ile Asn Asn Ile Leu
 165 170 175
 Glu Glu Ile Ser Lys Ala Ser Lys Phe Glu Asn Gly Arg Glu Phe Leu
 180 185 190
 Ser Pro Pro Thr Tyr Glu Thr Thr Lys Lys Leu Ala Ala Phe Lys
 195 200 205
 Gln Phe His Thr Phe Ser Gln Arg Pro Thr Lys Asn Ala Ser His Tyr
 210 215 220
 Gln Glu Leu Phe Gln Ile Leu Glu Ser His Phe Ser Ser Tyr Glu Glu
 225 230 235 240
 Met Phe Thr Thr Ile Leu Asn Asn Arg Thr Gln Glu Glu Asp Cys Ser
 245 250 255
 Leu His Ile Phe Gly Tyr Ala His Leu Pro Lys His Leu Ala Glu Phe
 260 265 270
 Phe Ile Asn Leu Ser Thr Tyr Phe Pro Val Tyr Phe Tyr Cys Phe Ser
 275 280 285
 Pro Cys Arg Glu Tyr Phe Gly Asp Leu Leu Ser Asp Arg Ala Ile Asp
 290 295 300
 Phe Phe Trp Asn Gln Leu Pro Asp Ser Pro Ile Lys Asn Ala Trp Glu
 305 310 315 320
 His Tyr Val Leu Ser Asp Arg Gln Ala Leu Leu Ala Asn Leu Ala His
 325 330 335
 Lys Ser Gln Ser Ser Gln Asn Phe Phe Leu Asp Arg Glu Ile Asp Tyr
 340 345 350
 Gln Glu Met Phe Leu Pro Ser Lys His Asp Ser Ser Leu Gly Val Ile
 355 360 365
 Gln Asn Ser Ile Leu Asp Leu Lys Pro Thr Ser Pro Gln Asp Phe Ser
 370 375 380
 Gln Thr Lys Gln Thr Ile Cys Ile Tyr Arg Ala Leu Asn Ile Pro Arg
 385 390 395 400
 Glu Val Gln Glu Val Phe Cys Lys Val Thr Glu Leu Leu His Arg Gly
 405 410 415

Phe Glu Glu Arg Pro Tyr His Glu Ser Tyr Leu Phe Pro Pro Leu Ser
 900 905 910
 Leu Ser Phe Gln Gly Asn Pro Val Gln Ile His Gly Thr Ile His Gly
 915 920 925
 Val Cys Asn Glu Gly Leu Tyr Leu Cys Ser Ile Asp Pro Arg Asp Ser
 930 935 940
 Leu Lys Lys Thr Thr Arg Thr Leu Gly Ser Leu Pro Glu Thr Ser Ser
 945 950 955 960
 Glu Gln Lys Gln Leu Leu Glu Arg Tyr Val Ala Leu Ala Val Leu Gln
 965 970 975
 Met Ser Gln His Leu Ser Ser Asp Ser Ala Leu Ile Lys Leu Thr Ser
 980 985 990
 Phe Asn Thr Lys Glu Asn His His Pro Phe Ser Asp Pro Glu Gly
 995 1000 1005
 Tyr Leu Arg Lys Val Leu Glu Val Tyr His Leu Met Ser Ser Gln Pro
 1010 1015 1020
 Ile Pro Leu Leu Ser Pro Leu Cys Trp Lys Thr Leu Asp Asp Glu Glu
 1025 1030 1035 1040
 Lys Phe His Gln Ala Val Leu Ser Ala Ile Ser Glu Glu Ala Lys Asn
 1045 1050 1055
 Pro Ser Leu Pro Ile Phe Trp Gln Phe His Asn Arg Asn Ile Glu Glu
 1060 1065 1070
 Ile Leu Asn His Val Gly Ala Ser Glu Arg Leu Lys Ile Leu Ser Leu
 1075 1080 1085
 Phe Arg Gly Pro Cys Glu Ala Val
 1090 1095

<210> 740
 <211> 1060
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0738

<400> 740
 Lys Phe Tyr Leu Phe Ser Glu Val Pro Val Met Lys Pro Phe Asn Ile
 1 5 10 15
 Phe Asp Ser Asn Ser Ser Ile Gln Gly Lys Phe Phe Leu Glu Ala Ser
 20 25 30
 Ala Gly Thr Gly Lys Thr Phe Thr Ile Glu Gln Ile Val Leu Arg Ala
 35 40 45
 Leu Ile Glu Gly Ser Leu Thr His Val Glu His Ala Leu Ala Ile Thr
 50 55 60
 Phe Thr Asn Ala Ser Thr Asn Glu Leu Lys Val Arg Ile Lys Asp Asn
 65 70 75 80
 Leu Ala Gln Thr Leu Arg Glu Leu Lys Ala Val Leu Asn Ser Gln Pro
 85 90 95
 Ala Ser Leu Pro Thr Tyr Leu Asp Ile Asn Cys Asn Val Lys Gln Ile
 100 105 110
 Tyr Met Gln Val Arg Asn Ala Leu Ala Thr Leu Asp Gln Met Ser Leu
 115 120 125
 Phe Thr Ile His Gly Phe Cys Asn Phe Val Leu Glu Gln Tyr Phe Pro
 130 135 140
 Lys Thr Arg Leu Ile His Lys Asn Pro Ala Leu Thr His Ser Gln Leu
 145 150 155 160
 Val Leu His His Ile Thr Asn Tyr Leu Lys Gln Asp Leu Trp Lys Asn
 165 170 175
 Val Leu Phe Gln Glu Gln Phe His Leu Leu Ala Val Arg Tyr Asn Ile
 180 185 190

1005

Leu Leu His Leu Lys Asn Phe Ser Glu Thr Gly Arg Trp Glu Glu Glu
 675 680 685
 Leu Ala Ile Ser Ser Tyr Ser Glu Asp Leu Glu Thr Leu Lys Ile Thr
 690 695 700
 Thr Ile His Ser Ser Lys Gly Leu Glu Tyr Asp Ile Val Phe Cys Pro
 705 710 715 720
 Gly Ile Glu Lys Ser Lys Lys Asn Lys Ser Ser Ser Glu Leu Leu Arg
 725 730 735
 Glu Met Tyr Val Ala Cys Thr Arg Ala Lys Lys Gln Leu Tyr Leu Pro
 740 745 750
 Ile Ser Thr Gln Pro Pro Ser Leu Gln Arg Ser Ser Ala Leu Thr Asn
 755 760 765
 Tyr Val Lys Leu Glu Gly Thr Gln Ser Ser Ala Tyr Asp Leu Ala Ile
 770 775 780
 His Leu His Gln Glu His Pro Asp Leu Phe Ser Tyr Ser Leu Pro Lys
 785 790 795 800
 Asp His Gly His Ala Thr Thr Val Leu Asn Leu Pro Leu Leu Glu Thr
 805 810 815
 Phe Ala Leu Lys Val Thr Pro Pro Lys Thr Ile Phe Ser Phe Ser Ser
 820 825 830
 Thr Lys Phe Leu Leu Asp Thr His Lys Asp Ser Gln Ser Ile Pro Tyr
 835 840 845
 Ser Lys Leu Pro Ile Ser Lys Gln Gln Leu Pro Leu Gly Glu Lys Thr
 850 855 860
 Gly Ile Leu Ile His Lys Ile Leu Glu Ser Ile Gln Phe Ser Leu Leu
 865 870 875 880
 Gln Asp Thr Glu Tyr Leu Met Ser Thr Ile Met Arg Phe Ile Lys His
 885 890 895
 Thr His Leu Glu Gly Phe Glu Glu Thr Ile Leu Lys Leu Leu Ser Lys
 900 905 910
 Thr Phe Phe Ser Pro Leu Thr Phe Ser Ser Gln Thr Phe Ser Leu Ser
 915 920 925
 Gln Val Leu Pro Asn Lys Ile Phe Arg Glu Thr Ser Phe Leu Phe Leu
 930 935 940
 Glu Asn Gln Glu Leu Trp Gln Gly Val Ile Asp Leu Phe Phe Glu His
 945 950 955 960
 Glu Gly Lys Tyr Tyr Ile Ile Asp Trp Lys Thr Ser Phe Leu Gly Glu
 965 970 975
 Thr Asn Ser Asp Tyr Ser Lys Ser Asn Leu Ser Ile Tyr Ile Lys Gln
 980 985 990
 Glu Lys Leu Asp Tyr Gln Gly Arg Ile Tyr Val Lys Ala Val Arg Lys
 995 1000 1005
 Phe Leu Asn Gln Phe Glu Ile Asp Asp Asp Val Glu Leu Gly Val Ile
 1010 1015 1020
 Phe Ile Arg Gly Ile Asp Thr Gln Gly Asn Gly Phe Phe Ala Leu Asn
 1025 1030 1035 1040
 Ser Ser Glu Asp Ile Pro Asn Phe Asn Pro Lys Ala Ile Gln Lys Cys
 1045 1050 1055
 Gln Ala Tyr His
 1060

<210> 741
 <211> 344
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0739

<400> 741

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Cys Lys Val Leu Phe Lys Leu Met Ser Tyr Ser Leu Arg Asn Lys Lys
 1           5           10           15
Thr Lys Ile Cys Val Tyr Ile Ile Ile Ala Leu Gly Ile Leu Ser Phe
      20           25           30
Arg Ser Ile Pro Gln Glu Val Tyr Asp Lys Ile Arg Ser Ser Phe Val
      35           40           45
Ser Leu His Val Lys Phe Phe Pro Lys Ile Lys Gln Ala Pro Ser Ser
      50           55           60
His Leu Ala Asn Leu Glu Leu Glu Asn Leu Val Leu Lys Glu Arg Val
      65           70           75           80
Ala Ser Leu Glu Glu Lys Leu Lys Leu Tyr Glu Val Ser Asn His Thr
      85           90           95
Pro Pro Leu Phe Pro Glu Ile Leu Thr Pro Tyr Phe His Lys Leu Val
      100          105          110
Glu Gly Lys Val Val Tyr Arg Asp Tyr Thr His Trp Ser Ser Ser Cys
      115          120          125
Trp Val Asn Val Gly Lys Thr His Gly Ile Lys Lys Asn Ser Pro Val
      130          135          140
Leu Ser Gly Asn Val Leu Val Gly Leu Val Asp Tyr Val Gly Glu His
      145          150          155          160
Gln Ser Arg Ile Arg Leu Ile Thr Asp Val Gly Met Lys Pro Ser Val
      165          170          175
Val Ala Met Arg Gly Asp Ile Gln Ser Trp Trp Ile Lys His Ser Leu
      180          185          190
Arg Glu Leu Ile Arg Gln Val Glu Gln Ile Ser His Ala Tyr Ile Leu
      195          200          205
Glu Lys Asp Lys Tyr Glu Lys Ile Ser Gln Leu Gln Glu Leu Asp Ser
      210          215          220
Leu Ile Gln Gly Glu Gly Glu Asn Gln Ala Leu Leu Arg Gly Ile Leu
      225          230          235          240
Ser Gly Val Gly Gly Ala Leu Trp Lys Glu Gly Ser Leu Cys Leu Glu
      245          250          255
Gly Glu Gly Phe Tyr Phe Ser Glu Gly Lys Thr Leu Leu Pro Gly Asp
      260          265          270
Ile Leu Val Thr Thr Gly Leu Asp Gly Val Phe Pro Pro Gly Leu Leu
      275          280          285
Val Ala Arg Val Thr Lys Val Lys Ala Pro Arg Asp Gly Ala Cys Thr
      290          295          300
Phe Lys Ile Glu Ala Gln Ser Leu Glu Glu Lys Leu Met Glu Leu Asp
      305          310          315          320
Gln Leu Phe Ile Leu Pro Pro Leu Glu Phe Asn Pro Asn Asp Arg Pro
      325          330          335
Asp Ile Phe Gly Leu Leu Trp Asp
      340

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<210> 742

<211> 397

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0740

<400> 742

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Ser Tyr Met Ser Phe Phe Asn His Ile Pro Thr Phe Ser Pro Asp Ala
 1           5           10           15
Ile Leu Gly Leu Gln Asn Val Phe Phe Ala Asp Lys Arg Pro Glu Lys
      20           25           30
Val Asn Leu Val Ile Gly Val Tyr Glu His Pro Gln Lys Arg Tyr Gly
      35           40           45

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Gly	Leu	Ser	Cys	Ile	Arg	Lys	Ala	Gln	Thr	Val	Ile	Leu	Glu	Glu	Glu
50						55					60				
Gln	Asn	Lys	Ser	Tyr	Leu	Pro	Ile	Ser	Gly	Leu	Gln	Ile	Phe	Leu	Asp
65					70					75					80
Glu	Met	Arg	Glu	Leu	Val	Phe	Gly	Ala	Val	Asp	Pro	Ser	Ala	Ile	Val
				85					90					95	
Gly	Phe	Gln	Ser	Leu	Gly	Gly	Thr	Gly	Ala	Leu	His	Leu	Gly	Ala	Arg
			100					105					110		
Leu	Leu	Ser	Val	Ala	Lys	Gly	Ser	Gly	Lys	Val	Tyr	Val	Pro	Glu	Gln
		115					120					125			
Thr	Trp	Ser	Asn	His	Ile	Arg	Ile	Phe	Ser	Gln	Glu	Gly	Leu	Glu	Val
	130					135					140				
Ile	Arg	Tyr	Pro	Tyr	Tyr	Ser	Lys	Glu	Gln	Lys	Gln	Leu	Leu	Phe	Glu
145					150					155					160
Pro	Leu	Ile	Ala	Phe	Leu	Lys	Glu	Val	Glu	Lys	Asn	Ser	Val	Ile	Leu
				165					170					175	
Leu	His	Gly	Cys	Cys	His	Asn	Pro	Thr	Gly	Val	Asp	Phe	Thr	Glu	Asp
			180					185				190			
Met	Trp	Lys	Glu	Leu	Ala	Ile	Leu	Met	Lys	Glu	Arg	Glu	Leu	Ile	Pro
		195					200					205			
Phe	Phe	Asp	Thr	Ala	Tyr	Gln	Gly	Phe	Ala	His	Gly	Ile	Glu	Leu	Asp
	210					215					220				
Arg	Lys	Pro	Ile	Glu	Ile	Phe	Ile	Ser	Glu	Gly	Asn	Thr	Val	Leu	Val
225					230					235					240
Ala	Ala	Ser	Ser	Ser	Lys	Asn	Phe	Ala	Leu	Tyr	Gly	Glu	Arg	Val	Gly
				245					250					255	
Tyr	Phe	Ala	Val	His	Ser	Thr	Phe	Thr	Asp	Glu	Leu	Val	Lys	Ile	His
			260					265					270		
Ser	Phe	Leu	Glu	Glu	Lys	Ile	Arg	Gly	Glu	Tyr	Ser	Ser	Pro	Gln	Arg
		275					280					285			
Trp	Gly	Val	Glu	Ile	Val	Ser	Thr	Ile	Leu	Ser	Asn	Pro	Tyr	Leu	Lys
	290					295					300				
Glu	Glu	Trp	Gln	Ser	Glu	Leu	Asn	Phe	Ile	Arg	Glu	Ser	Leu	Gly	Lys
305					310					315					320
Met	Arg	Thr	Arg	Phe	Val	Gln	Ala	Leu	Arg	Lys	Val	Ala	Gly	His	Thr
				325					330					335	
Phe	Asp	Phe	Leu	Ser	Gln	His	Gly	Phe	Phe	Ala	Tyr	Pro	Gly	Phe	
			340				345					350			
Ser	Asp	Lys	Gln	Val	Leu	Phe	Leu	Arg	Glu	Gln	His	Ala	Val	Tyr	Thr
		355					360					365			
Thr	Ala	Gly	Gly	Arg	Met	Asn	Leu	Asn	Gly	Ile	Thr	Glu	Lys	Asn	Ile
	370					375					380				
Asp	His	Val	Val	Gln	Ser	Phe	Ile	Gln	Ala	Tyr	Glu	Leu			
385					390					395					

<210> 743
 <211> 733
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0741

<400> 743

Glu	Tyr	Ile	Phe	Arg	Leu	Lys	Thr	Gly	Asp	Ile	Val	Asp	Tyr	Leu	Glu
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Lys	Leu	Gln	Val	Leu	Ile	Glu	Glu	Gly	Gln	Ser	Ala	Asn	Phe	Leu	Ser
			20					25					30		
Leu	Trp	Glu	Glu	Tyr	Cys	Phe	Asn	Asp	Val	Val	Arg	Gly	Arg	Glu	Leu
		35					40						45		

Val	Glu	Ile	Leu	Glu	Lys	Val	Lys	Ser	Ser	Ser	Leu	Ala	Ser	Leu	Phe
50						55					60				
Gly	Lys	Ile	Val	Asp	Thr	Val	Val	Pro	Leu	Trp	Glu	Lys	Ile	Pro	Glu
65					70					75				80	
Gly	Lys	Asp	Lys	Asp	Arg	Val	Leu	Gln	Leu	Ile	Leu	Asp	Leu	Gln	Thr
				85					90					95	
Ser	Asn	Ser	Gln	Met	Phe	Phe	Asp	Ile	Ala	Thr	Glu	Tyr	Val	Asn	Lys
			100					105					110		
Lys	Tyr	Ser	Gly	Glu	Glu	Asn	Phe	Asn	Glu	Ala	Leu	Arg	Val	Val	Gly
			115					120					125		
Leu	Arg	Asp	Gly	Arg	Asp	Phe	Gln	Phe	Ser	Leu	Ser	Arg	Phe	Asp	Phe
			130				135					140			
Leu	Met	His	Met	His	Lys	Gly	Asn	Phe	Val	Phe	His	Gln	Gly	Gly	Trp
145					150					155					160
Gly	Val	Gly	Glu	Val	Met	Gly	Val	Ser	Phe	Leu	Gln	Gln	Lys	Val	Leu
				165					170					175	
Ile	Glu	Phe	Glu	Gly	Ile	Met	Ser	Ala	Lys	Asp	Ile	Ser	Phe	Glu	Thr
			180					185					190		
Ala	Phe	Lys	Ser	Leu	Thr	Pro	Leu	Ser	Gly	Asp	His	Phe	Leu	Ser	Arg
		195					200					205			
Arg	Phe	Gly	Asp	Pro	Asp	Gly	Phe	Glu	Ala	Phe	Ala	Lys	Glu	Asn	Pro
		210				215					220				
Ile	Glu	Val	Val	Glu	Ile	Leu	Leu	Arg	Asp	Leu	Gly	Pro	Lys	Thr	Ala
225					230					235					240
Lys	Glu	Ile	Lys	Asp	Glu	Leu	Val	Asp	Leu	Val	Ile	Pro	Glu	Ala	Asp
				245					250					255	
Trp	Asn	Arg	Trp	Trp	Gln	Ser	Ala	Lys	Thr	Lys	Ile	Lys	Lys	Gly	Thr
			260					265					270		
Arg	Ile	Ile	Ser	Pro	Asp	Asn	Pro	Lys	Glu	Pro	Tyr	Val	Leu	Ser	Asp
		275					280					285			
Ala	Gly	Cys	Ser	His	Met	Gly	Gln	Leu	Glu	Arg	Lys	Leu	Gly	Leu	Ser
		290				295					300				
Leu	Asn	Ser	Ala	Glu	Lys	Ile	Ser	Leu	Ile	Tyr	His	Phe	Ile	Arg	Asp
305					310					315					320
Leu	His	Ser	Glu	Leu	Lys	Asn	Ile	Glu	Ile	Arg	Lys	Ser	Leu	Val	Lys
				325					330					335	
Ala	Leu	Gln	Asp	Leu	Asp	Val	Glu	Glu	Gly	Asn	Lys	Ser	Leu	Ile	Leu
			340					345					350		
Gln	Arg	Glu	Leu	Leu	Leu	Ser	Glu	Tyr	Leu	Gly	Ile	Lys	Asp	Ala	Ser
			355				360					365			
Ile	Asp	Lys	Glu	Tyr	Ile	Thr	Ser	Leu	Ser	Glu	Asp	Asp	Thr	Ser	Arg
			370			375					380				
Leu	Leu	Glu	Asn	Met	Pro	Ile	Val	Ala	Leu	Gln	Lys	Ser	Phe	Leu	Ser
385					390					395					400
Leu	Val	Arg	Lys	Tyr	Ser	Ser	Phe	Trp	Gln	Gln	Val	Phe	Met	Gln	Ile
				405					410					415	
Leu	Leu	Tyr	Thr	Thr	Ser	Pro	Thr	Met	Arg	Asp	Phe	Val	Tyr	Lys	Thr
			420					425					430		
Ile	Lys	Asn	Asp	Pro	Ser	Ser	Val	Glu	Val	Leu	Lys	Lys	Arg	Leu	Leu
		435					440					445			
Asp	Ser	Ala	His	Gln	Pro	Met	Met	Phe	Pro	Glu	Leu	Phe	Val	Trp	Phe
		450				455				460					
Phe	Leu	Lys	Leu	Gly	Asn	His	Glu	Asp	Gly	Leu	Phe	Asp	Pro	Glu	Asp
465					470					475					480
Lys	Glu	Val	Leu	Arg	Leu	Phe	Leu	Glu	Ser	Ala	Leu	Asn	Phe	Met	Tyr
				485					490					495	
Gln	Val	Ala	Ser	Thr	Pro	His	Lys	Glu	Leu	Gly	Lys	Lys	Leu	His	His
			500					505					510		
Tyr	Leu	Val	Gly	Gln	Arg	Tyr	Leu	Ala	Val	Arg	Gln	Met	Ile	Glu	Gly
		515					520					525			

Ala Ser Leu Pro Phe Leu Lys Glu Leu Leu Leu Leu Ser Thr Lys Cys
530 535 540
Pro Gln Phe Ser Ser Ser Asp Leu Asn Val Leu Gln Ser Leu Ala Glu
545 550 555 560
Val Val Gln Pro Thr Leu Lys Lys His Lys Ser Asn Val Glu Glu Glu
565 570 575
Asn Val Leu Trp Ser Thr Ser Glu Ser Phe Ser Arg Met Lys Ala Lys
580 585 590
Leu Gln Ser Leu Val Gly Lys Glu Met Val Asp Asn Ala Lys Glu Ile
595 600 605
Glu Asp Ala Arg Ser Leu Gly Asp Leu Arg Glu Asn Ser Glu Tyr Lys
610 615 620
Phe Ala Leu Glu Lys Arg Ala Arg Leu Gln Glu Glu Ile Arg Val Leu
625 630 635 640
Ser Glu Glu Ile Asn Arg Ala Arg Ile Leu Thr Lys Asp Leu Val Phe
645 650 655
Thr Asp Lys Val Gly Val Gly Cys Lys Val Thr Leu Lys Gly Asp Ala
660 665 670
Gly Glu Val Val Glu Tyr Thr Ile Leu Gly Pro Trp Asp Ala Asp Pro
675 680 685
Asp Ser Cys Ile Leu Ser Leu Gln Ser Lys Leu Ala Gln Asn Met Leu
690 695 700
Gly Lys Lys Leu Asn Asp Val Val Ile Leu Gln Gly Lys Glu Tyr Lys
705 710 715 720
Ile Ser Arg Ile Gln Ser Ile Trp Glu Glu His Gly Ala
725 730

<210> 744
<211> 149
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0742

<400> 744
Thr Lys Met Met Val Ile Val Met Asn Ser Lys Ser Ala Gln Lys Ile
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Ile Asp Ser Ile Lys Gln Ile Leu Thr Ile Tyr Asn Ile Asp Phe Asp
20 25 30
Pro Ser Phe Gly Ser Ser Leu Ser Ser Asp Ser Asp Ala Asp Tyr Glu
35 40 45
Tyr Leu Ile Thr Lys Thr Gln Glu Lys Ile Gln Glu Leu Asp Lys Arg
50 55 60
Ala Gln Glu Ile Leu Thr Gln Thr Gly Met Ser Lys Glu Gln Met Glu
65 70 75 80
Val Phe Ala Asn Asn Pro Asp Asn Phe Ser Pro Glu Glu Trp Leu Ala
85 90 95
Leu Glu Lys Val Arg Ser Ser Cys Asp Glu Tyr Arg Lys Glu Thr Glu
100 105 110
Asn Leu Ile Asn Glu Ile Thr Leu Asp Leu His Pro Thr Lys Glu Ser
115 120 125
Lys Arg Pro Lys Gln Lys Leu Ser Ser Thr Lys Lys Asn Lys Lys Lys
130 135 140
Asn Trp Ile Pro Leu
145

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<212> PRT
<213> Chlamydia pneumoniae

<220>

<223> CPn0743

<400> 745

Ile	Phe	Met	Lys	Ile	Thr	Val	Asn	Arg	Gly	Leu	Asp	Leu	Ser	Leu	Gln
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Gly	Ser	Pro	Lys	Glu	Ser	Gly	Phe	Tyr	Asn	Lys	Ile	Asp	Pro	Glu	Phe
			20					25					30		
Val	Ser	Ile	Asp	Leu	Arg	Pro	Phe	Gln	Pro	Leu	Ser	Leu	Lys	Leu	Lys
		35					40					45			
Val	Glu	Gln	Gly	Asp	Ala	Val	Cys	Ser	Gly	Ala	Pro	Ile	Ala	Glu	Tyr
	50					55					60				
Lys	His	Phe	Pro	Asn	Thr	Tyr	Ile	Thr	Ser	His	Val	Ser	Gly	Val	Val
65					70					75					80
Thr	Ala	Ile	Arg	Arg	Gly	Asn	Lys	Arg	Ser	Leu	Leu	Asp	Val	Ile	Ile
			85						90					95	
Lys	Lys	Thr	Pro	Gly	Pro	Thr	Ser	Thr	Glu	Tyr	Thr	Tyr	Asp	Leu	Gln
			100					105					110		
Thr	Leu	Ser	Arg	Ser	Asp	Leu	Ser	Glu	Ile	Phe	Lys	Glu	Asn	Gly	Leu
		115					120						125		
Phe	Ala	Leu	Ile	Lys	Gln	Arg	Pro	Phe	Asp	Ile	Pro	Ala	Ile	Pro	Thr
		130				135						140			
Gln	Thr	Pro	Arg	Asp	Val	Phe	Ile	Asn	Leu	Ala	Asp	Asn	Arg	Pro	Phe
145					150					155					160
Thr	Pro	Ser	Pro	Glu	Lys	His	Leu	Ala	Leu	Phe	Ser	Ser	Arg	Glu	Glu
				165					170					175	
Gly	Phe	Tyr	Val	Phe	Val	Val	Gly	Val	Arg	Ala	Ile	Ala	Lys	Leu	Phe
			180					185					190		
Gly	Leu	Arg	Pro	His	Ile	Val	Phe	Arg	Asp	Arg	Leu	Thr	Leu	Pro	Thr
		195					200					205			
Gln	Glu	Leu	Lys	Thr	Ile	Ala	His	Leu	His	Thr	Val	Ser	Gly	Pro	Phe
		210				215					220				
Pro	Ser	Gly	Ser	Pro	Ser	Ile	His	Ile	His	Ser	Val	Ala	Pro	Ile	Thr
225					230					235					240
Asn	Glu	Lys	Glu	Val	Val	Phe	Thr	Leu	Ser	Phe	Gln	Asp	Val	Leu	Thr
				245					250					255	
Ile	Gly	His	Leu	Phe	Leu	Lys	Gly	Arg	Ile	Leu	His	Glu	Gln	Val	Thr
			260					265					270		
Ala	Leu	Ala	Gly	Thr	Ala	Leu	Lys	Ser	Ser	Leu	Arg	Arg	Tyr	Val	Ile
			275				280					285			
Thr	Thr	Lys	Gly	Ala	Ser	Phe	Ser	Ser	Leu	Ile	Asn	Leu	Asn	Asp	Ile
		290				295					300				
Ser	Asp	Asn	Asp	Thr	Leu	Ile	Ser	Gly	Asp	Pro	Leu	Thr	Gly	Arg	Leu
305					310					315					320
Cys	Lys	Lys	Glu	Glu	Glu	Pro	Phe	Leu	Gly	Phe	Arg	Asp	His	Ser	Ile
				325					330					335	
Ser	Val	Leu	His	Asn	Pro	Thr	Lys	Arg	Glu	Leu	Phe	Ser	Phe	Leu	Arg
			340					345					350		
Ile	Gly	Phe	Asn	Lys	Pro	Thr	Phe	Thr	Lys	Thr	Tyr	Leu	Ser	Gly	Phe
		355					360					365			
Phe	Lys	Lys	Lys	Arg	Thr	Tyr	Thr	Asn	Pro	Asp	Thr	Asn	Leu	His	Gly
		370				375					380				
Glu	Thr	Arg	Pro	Ile	Ile	Asp	Thr	Asp	Ile	Tyr	Asp	Lys	Val	Met	Pro
385					390					395					400
Met	Arg	Ile	Pro	Val	Val	Pro	Leu	Ile	Lys	Ala	Val	Ile	Thr	Lys	Asn
				405					410					415	
Phe	Asp	Leu	Ala	Asn	Glu	Leu	Gly	Phe	Leu	Glu	Val	Cys	Gly	Glu	Asp
			420					425					430		
Phe	Ala	Leu	Pro	Thr	Leu	Ile	Asp	Pro	Ser	Lys	Thr	Glu	Met	Leu	Thr
		435					440						445		

Ile Val Lys Glu Ser Leu Ile Glu Tyr Ala Lys Glu Ser Gly Ile Leu
 450 455 460
 Thr Pro His Gln Asp
 465

<210> 746
 <211> 333
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0744

<400> 746
 Glu Met Ser Ser Leu Thr Leu Ser Arg Arg Pro Arg Arg Asn Arg Lys
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 Thr Ala Ala Ile Arg Asp Leu Leu Ala Glu Thr His Leu Ser Pro Lys
 20 25 30
 Asp Leu Ile Ala Pro Phe Phe Val Lys Tyr Gly Asn Asn Ile Lys Glu
 35 40 45
 Glu Ile Pro Ser Leu Pro Gly Val Phe Arg Trp Ser Leu Asp Leu Leu
 50 55 60
 Leu Lys Glu Ile Glu Arg Leu Cys Thr Tyr Gly Leu Arg Ala Val Met
 65 70 75 80
 Leu Phe Pro Ile Ile Pro Asp Asp Leu Lys Asp Ala Tyr Gly Ser Tyr
 85 90 95
 Ser Ser Asn Pro Lys Asn Ile Leu Cys His Ser Ile His Glu Ile Lys
 100 105 110
 Asn Ala Phe Pro His Leu Cys Leu Ile Ser Asp Ile Ala Leu Asp Pro
 115 120 125
 Tyr Thr Thr His Gly His Asp Gly Ile Phe Leu Asn Gly Glu Val Leu
 130 135 140
 Asn Asp Glu Ser Val Arg Ile Phe Gly Asn Ile Ala Thr Leu His Ala
 145 150 155 160
 Glu Met Gly Ala Asp Ile Val Ala Pro Ser Asp Met Met Asp Gly Arg
 165 170 175
 Ile Gly Tyr Ile Arg Ser Lys Leu Asp Gln Ser Gly Tyr Ser Lys Thr
 180 185 190
 Ser Ile Met Ser Tyr Ser Val Lys Tyr Ala Ser Cys Leu Tyr Ser Pro
 195 200 205
 Phe Arg Asp Ala Leu Ser Ser His Val Thr Ser Gly Asp Lys Lys Gln
 210 215 220
 Tyr Gln Met Asn Pro Lys Asn Val Leu Glu Ala Leu Leu Glu Ser Ser
 225 230 235 240
 Leu Asp Glu Glu Glu Gly Ala Asp Ile Leu Met Val Lys Pro Ala Gly
 245 250 255
 Leu Tyr Leu Asp Val Ile Tyr Arg Ile Arg Gln Asn Thr Cys Leu Pro
 260 265 270
 Leu Ala Ala Tyr Gln Val Ser Gly Glu Tyr Ala Met Ile Leu Ser Ala
 275 280 285
 Phe Gln Gln Gly Trp Leu Asp Lys Glu Thr Leu Phe His Glu Ser Leu
 290 295 300
 Ile Ala Ile Lys Arg Ala Gly Ala Asp Met Ile Ile Ser Tyr Ser Ala
 305 310 315 320
 Pro Phe Ile Leu Glu Leu Leu His Gln Gly Phe Glu Phe
 325 330

<210> 747
 <211> 54
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0745

<400> 747

Val Asp Ser Cys Phe Asp Asp Trp Arg Ala Ser Ser Leu Gln Gly Ser
1 5 10 15
Thr Thr Tyr Asn Val Ala Tyr Asp Pro Lys His Thr Leu Ala Tyr Gly
20 25 30
Phe Cys Asn Gln Val Ser Val Lys Lys Phe His Leu Lys Pro Pro Lys
35 40 45
Ser Gln Glu Lys Phe Leu
50

<210> 748

<211> 543

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0746

<400> 748

Phe Ser Gly Arg Cys Pro Phe Ser Phe Glu Val Phe Met Leu Gly Lys
1 5 10 15
Glu Glu Glu Phe Thr Cys Lys Gln Lys Gln Cys Leu Ser His Phe Val
20 25 30
Thr Asn Leu Thr Ser Asp Val Phe Ala Leu Lys Asn Leu Pro Glu Val
35 40 45
Val Lys Gly Ala Leu Phe Ser Lys Tyr Ser Arg Ser Val Leu Gly Leu
50 55 60
Arg Ala Leu Leu Leu Lys Glu Phe Leu Ser Asn Glu Glu Asp Gly Asp
65 70 75 80
Val Cys Asp Glu Ala Tyr Asp Phe Glu Thr Asp Val Gln Lys Ala Ala
85 90 95
Asp Phe Tyr Gln Arg Val Leu Asp Asn Phe Gly Asp Asp Ser Val Gly
100 105 110
Glu Leu Gly Gly Ala His Leu Ala Met Glu Asn Val Ser Ile Leu Ala
115 120 125
Ala Lys Val Leu Glu Asp Ala Arg Ile Gly Gly Ser Pro Leu Glu Lys
130 135 140
Ser Thr Arg Tyr Val Tyr Phe Asp Gln Lys Val Arg Gly Glu Tyr Leu
145 150 155 160
Tyr Tyr Arg Asp Pro Ile Leu Met Thr Ser Ala Phe Lys Asp Met Phe
165 170 175
Leu Gly Thr Cys Asp Phe Leu Phe Asp Thr Tyr Ser Ala Leu Ile Pro
180 185 190
Gln Val Arg Ala Tyr Phe Glu Lys Leu Tyr Pro Lys Asp Ser Lys Thr
195 200 205
Pro Ala Ser Ala Tyr Ala Thr Ser Leu Arg Ala Lys Val Leu Asp Cys
210 215 220
Ile Arg Gly Leu Leu Pro Ala Ala Thr Leu Thr Asn Leu Gly Phe Phe
225 230 235 240
Gly Asn Gly Arg Phe Trp Gln Asn Leu Ile His Lys Leu Gln Gly His
245 250 255
Asn Leu Ala Glu Leu Arg Arg Leu Gly Asp Glu Ser Leu Thr Glu Leu
260 265 270
Met Lys Val Ile Pro Ser Phe Val Ser Arg Ala Glu Pro His His His
275 280 285
His His Gln Ala Met Met Gln Tyr Arg Arg Ala Leu Lys Glu Gln Leu
290 295 300

Lys Gly Leu Ala Glu Gln Ala Thr Phe Ser Glu Glu Met Ser Ser Ser
 305 310 315 320
 Pro Ser Val Gln Leu Val Tyr Gly Asp Pro Asp Gly Ile Tyr Lys Val
 325 330 335
 Ala Ala Gly Phe Leu Phe Pro Tyr Ser Asn Arg Ser Leu Thr Asp Leu
 340 345 350
 Ile Asp Tyr Cys Lys Lys Met Pro His Glu Asp Leu Val Gln Ile Leu
 355 360 365
 Glu Ser Ser Val Ser Ala Arg Glu Asn Arg Arg His Lys Ser Pro Arg
 370 375 380
 Gly Leu Glu Cys Val Glu Phe Gly Phe Asp Ile Leu Ala Asp Phe Gly
 385 390 395 400
 Ala Tyr Arg Asp Leu Gln Arg His Arg Thr Leu Thr Gln Glu Arg Gln
 405 410 415
 Leu Leu Ser Thr His His Gly Tyr Asn Phe Pro Val Glu Leu Leu Asp
 420 425 430
 Thr Pro Met Glu Lys Ser Tyr Arg Glu Ala Met Glu Arg Ala Asn Glu
 435 440 445
 Thr Tyr Asn Glu Ile Val Gln Glu Phe Pro Glu Glu Ala Gln Tyr Met
 450 455 460
 Val Pro Met Ala Tyr Asn Ile Arg Trp Phe Phe His Val Asn Ala Arg
 465 470 475 480
 Ala Leu Gln Trp Ile Cys Glu Leu Arg Ser Gln Pro Gln Gly His Gln
 485 490 495
 Asn Tyr Arg Thr Ile Ala Thr Gly Leu Val Arg Glu Val Val Lys Phe
 500 505 510
 Asn Pro Met Tyr Glu Leu Phe Phe Lys Phe Val Asp Tyr Ser Asp Ile
 515 520 525
 Asp Leu Gly Arg Leu Asn Gln Glu Met Arg Lys Glu Pro Thr Thr
 530 535 540

<210> 749
 <211> 35
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0747

<400> 749
 Arg Thr Cys Met Gly Cys Lys Gly Ala Glu Val Gln Ile Leu Ser Ser
 1 5 10 15
 Arg Ser Leu Ser Gly Met Lys Ile Leu Ser Ser Ser Leu Phe Tyr Lys
 20 25 30
 Lys Phe Cys
 35

<210> 750
 <211> 292
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0748

<400> 750
 Gly Thr Leu Val Leu His Ala Leu Asp Thr Tyr Arg Pro Ser Ile Glu
 1 5 10 15
 Ser Ala Ile Glu Lys Ala Leu Glu Gly Phe Gly Pro Ile Gly His Pro
 20 25 30

Ile Arg Ser Pro Val Glu Tyr Ala Leu Gln Gly Gly Gly Lys Arg Leu
 35 40 45
 Arg Pro Gly Leu Val Cys Met Met Ala Gln Gly Leu Gly Leu Asn His
 50 55 60
 Asp Val Met Asp Ser Ala Leu Ala Val Glu Phe Val His Thr Ser Thr
 65 70 75 80
 Leu Ile Ala Asp Asp Leu Pro Cys Met Asp Asn Asp Asp Glu Arg Arg
 85 90 95
 Gly Arg Pro Thr Val His Lys Ala Phe Asp Glu Ala Thr Ala Leu Leu
 100 105 110
 Ala Ser Tyr Ala Leu Ile Pro Ala Ala Tyr Ser His Leu Arg Leu Asn
 115 120 125
 Ala Lys Lys Leu Lys Glu Gln Gly Cys Asp Pro Arg Glu Ile Asp Ile
 130 135 140
 Ala Tyr Asn Ile Ile Glu Asp Ile Thr Asp Lys Asn Ile Gly Cys Ser
 145 150 155 160
 Gly Val Leu Gly Gly Gln Tyr Asp Asp Met Phe Phe Ser Asn Arg Gly
 165 170 175
 Gln Glu His Val Gln Ser Ile Met Ile Lys Lys Thr Gly Ser Leu Phe
 180 185 190
 Glu Ile Ala Cys Ile Ser Gly Trp Leu Phe Gly Gly Gly Asp Pro Gln
 195 200 205
 Phe Ala Pro Ile Ile Thr Ser Phe Ser Asn Asn Phe Gly Leu Leu Phe
 210 215 220
 Gln Ile Lys Asp Asp Phe Ser Asp Leu Gln Lys Asp Ser Gln Gln Ile
 225 230 235 240
 Gly Leu Asn Tyr Ala Leu Leu Phe Gly Glu Lys Ala Ala Leu Glu Leu
 245 250 255
 Leu Ala Arg Ser Gln Asn Asn Cys Leu Glu Leu Leu Asp Arg Leu Ser
 260 265 270
 Ala Gly Gly Leu Lys Asn Ser Ser Glu Phe Glu Thr Ile Ile Ser Ser
 275 280 285
 Leu Gly Ser Phe
 290

<210> 751

<211> 211

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0749

<400> 751

Val Cys Tyr Met Thr Tyr Leu Ala Ser Ser Ile Phe Ser Pro Glu Asp
 1 5 10 15
 Phe Leu Tyr Pro Glu Ile Ile Ser Lys Ala His Tyr Thr Trp Asp Ile
 20 25 30
 Leu Asp Leu Met Asp Gln Met Leu Glu Asn His Val Phe Ser Gly Ile
 35 40 45
 His Gly Thr Val Glu Ser Gly Val Thr Leu Lys Asn Ile Glu Lys Ile
 50 55 60
 Glu Ile Ala Glu Asp Ala Tyr Val Glu Ser Gly Ala Tyr Ile Val Gly
 65 70 75 80
 Pro Cys Ile Leu Gly Ser Gln Thr Glu Val Arg His Gly Ala Tyr Leu
 85 90 95
 Arg Gly Asn Val Ile Thr Gly Ser Arg Cys Val Val Gly His Cys Thr
 100 105 110
 Glu Ile Lys Asn Ser Tyr Leu Gly His His Thr Lys Ala Ala His Phe
 115 120 125

Ala Tyr Leu Gly Asp Ser Val Leu Ser Ser Glu Val Asn Leu Gly Ala
130 135 140
Gly Val Arg Cys Ala Asn Phe Arg Leu Asp Gly Arg Asn Ile Tyr Val
145 150 155 160
Arg Ser Thr Ser Asp Lys Ser Lys Lys Ile Asp Thr Gly Arg Arg Lys
165 170 175
Leu Gly Ala Phe Leu Gly Lys Gly Val Ala Ile Gly Cys Asn Val Val
180 185 190
Ile Asn Pro Gly Gln His Ile Leu Pro His Thr Arg Ile Arg Pro Gly
195 200 205
Gln Val Ile
210

<210> 752
<211> 253
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0750

<400> 752
Lys Ile Thr Asp Phe Ile Leu Arg Ile His Ser Tyr Asn Leu Phe Cys
1 5 10 15
Phe His Met Ile Gly Asp Lys Ile Ile Leu Phe Val Thr Glu Asp Leu
20 25 30
Ser Leu Ser Ser Gln Leu Lys Asp Leu Ala Ser Gln Arg Ser Asp Tyr
35 40 45
Gln Ile Leu Val Ser Pro Val Phe Pro Thr Ser Phe Glu Ser Val Ala
50 55 60
Ile Phe Cys Glu Tyr Leu Leu Leu Pro Glu Gln Ile Phe Ser Pro Gly
65 70 75 80
Ile Phe Pro Glu Glu Asp Leu Ile Val Leu Phe Asp Thr Phe Gln Glu
85 90 95
Glu Ala Ile Thr Lys Val Leu Asn Gln Gly Ala Thr Gly Tyr Leu Leu
100 105 110
Arg Pro Ile Thr Ala Lys Val Leu Asp Ala Val Ile Arg Ala Phe Leu
115 120 125
Arg Gln His Glu Val Leu Glu His Ser Ile Pro Asp Thr Met Thr Phe
130 135 140
Gly Asp His Thr Phe Arg Val Leu Asn Leu Val Ile Glu Ser Pro Glu
145 150 155 160
Gly Ser Val Tyr Leu Thr Pro Ser Glu Ala Gly Ile Leu Lys Lys Leu
165 170 175
Leu Ile Asn Arg Gly His Leu Cys Leu Arg Lys Asn Leu Leu Ala Glu
180 185 190
Ile Lys Gly Asn Thr Lys Glu Ile Ile Ala Arg Asn Val Asp Val His
195 200 205
Ile Ala Ser Leu Arg Lys Lys Leu Gly Pro Tyr Gly Ser Lys Ile Val
210 215 220
Thr Ile Arg Gly Val Gly Tyr Leu Phe Ser Asp Asp Asp Ser Ile Pro
225 230 235 240
Leu Gln Asn His Asp Asn Thr Ala His Pro Asn Glu Glu
245 250

<210> 753
<211> 609
<212> PRT
<213> Chlamydia pneumoniae

<220>

<223> CPn0751

<400> 753

Met	Phe	Arg	Cys	Ile	Leu	Phe	Gly	Ile	Phe	Leu	Leu	Thr	Cys	Phe	Ser
1				5					10					15	
Ser	Gly	Gly	Val	Leu	Tyr	Tyr	Leu	Phe	Cys	Ser	His	Asp	Phe	Ser	Ile
			20					25					30		
Gly	Pro	Lys	Glu	Lys	Ser	Arg	Ser	Val	Trp	Ile	Glu	Glu	Glu	Lys	Glu
		35					40				45				
Phe	Thr	Asp	Ser	Val	Leu	His	His	Leu	Pro	Ser	Gln	His	Gln	His	Leu
50						55					60				
His	Ile	Leu	Cys	Phe	Gln	Gly	Phe	Leu	Leu	Gln	Lys	Gln	Gln	Lys	Phe
65					70					75					80
Ser	Gln	Ala	Glu	Lys	Ile	Phe	Ser	Lys	Val	Tyr	Asp	Glu	Ala	Gln	Asp
				85				90					95		
Gly	Pro	Phe	Leu	Phe	Lys	Glu	Glu	Ile	Leu	Gly	Ser	Arg	Leu	Ile	Asn
			100					105					110		
Ser	Phe	Phe	Leu	Glu	Lys	Thr	Asp	Val	Met	Glu	Thr	Ile	Leu	Cys	Leu
		115					120					125			
Leu	Asn	Gln	Arg	Cys	Pro	Asn	Ser	Pro	Tyr	Tyr	His	Leu	Phe	Lys	Ala
130						135					140				
Leu	Val	Cys	Tyr	Lys	Gln	Lys	Leu	Tyr	Arg	Glu	Val	Ile	Glu	Gln	Leu
145					150					155					160
Ala	Tyr	Trp	Gln	Glu	Glu	Lys	Thr	Arg	Ala	Leu	Ala	Pro	Leu	Leu	Asn
				165				170					175		
Ile	Ser	Ile	Glu	Gln	Leu	Leu	Thr	Asp	Phe	Leu	Leu	Asp	Tyr	Ile	Ser
			180					185					190		
Ala	His	Ser	Leu	Ile	Glu	Gln	Lys	Met	Phe	Pro	Glu	Gly	Arg	Val	Ile
		195					200					205			
Leu	Asn	Arg	Asn	Ile	Asn	Arg	Leu	Leu	Lys	His	Glu	Cys	Glu	Trp	Asn
210					215						220				
Ala	Lys	Thr	Tyr	Asp	Arg	Ile	Ala	Ile	Leu	Leu	Ser	Arg	Ser	Tyr	Phe
225					230					235					240
Leu	Glu	Leu	Val	Glu	Ser	Lys	Ser	Ala	Asp	Ile	Tyr	Phe	Asp	Tyr	Tyr
				245					250					255	
Glu	Met	Val	Leu	Phe	Tyr	Leu	Lys	Lys	Ile	Tyr	Ile	Leu	Glu	Gln	Cys
		260						265					270		
Pro	Tyr	Ala	Glu	Leu	Leu	Pro	Glu	Glu	Glu	Leu	Val	Ser	Leu	Ile	Met
		275					280					285			
Glu	His	Val	Phe	Ile	Leu	Pro	Lys	Asp	Lys	Leu	Tyr	Pro	Leu	Ile	Gln
290					295						300				
Leu	Leu	Glu	Met	Trp	Gln	Lys	His	Tyr	Val	His	Pro	Asn	Ser	Ser	Leu
305					310					315					320
Val	Val	Gln	Ile	Leu	Val	Asp	Arg	Phe	Ser	Thr	His	Met	Glu	Gly	Ala
				325				330						335	
Ile	Arg	Phe	Cys	Glu	Ala	Leu	Val	Ser	Phe	Ser	Gly	Leu	Glu	Glu	Leu
			340					345					350		
His	Gln	Gln	Ile	Ile	Thr	Thr	Phe	Glu	Glu	Leu	Leu	Ser	Asn	Lys	Val
		355					360					365			
Gln	Gln	Ile	Lys	Thr	Glu	Glu	Ala	Lys	Gln	Cys	Val	Ala	Leu	Leu	His
		370				375					380				
Ile	Leu	Asp	Pro	Ser	Ile	Ser	Ile	Ser	Glu	Lys	Leu	Ala	Leu	Ser	Ser
385					390					395					400
Asp	Thr	Leu	Gln	Asn	Ile	Val	Ser	Gly	Asp	Asp	Glu	Gln	His	Thr	Lys
				405				410						415	
Leu	Arg	Asn	Tyr	Leu	Asp	Leu	Trp	Glu	Ala	Ile	Gln	Ser	Tyr	Asp	Ile
			420					425					430		
Asp	Arg	Gln	Gln	Leu	Val	His	His	Leu	Val	Tyr	Gly	Ala	Lys	Asp	Leu
		435					440					445			

Trp Lys Lys Gly Gly Asn Asp Glu Lys Ala Leu Asn Leu Leu Gln Leu
 450 455 460
 Val Leu Arg Phe Thr Ser Tyr Asp Ile Glu Cys Glu Ser Val Val Phe
 465 470 475 480
 Leu Phe Ile Lys Gln Ala Tyr Lys Gln Ala Leu Ser Ser His Ala Ile
 485 490 495
 Ala Arg Leu Leu Lys Leu Glu Lys Phe Ile Ser Glu Ala Asn Ile Pro
 500 505 510
 Ser Ile Val Ile Ser Glu Ala Glu Lys Ala Asn Phe Leu Ala Asp Ala
 515 520 525
 Glu Tyr Leu Phe Ala His Glu Asp Tyr Asp Lys Cys Tyr Leu Tyr Ser
 530 535 540
 Met Trp Leu Thr Lys Val Ala Pro Ser Pro Gln Ser Tyr Arg Leu Ala
 545 550 555 560
 Gly Leu Cys Leu Met Glu Asn Lys Arg Tyr Asp Glu Ala Leu Glu Phe
 565 570 575
 Leu Cys Met Leu Ser Pro Asn Asp Ser Ile Asn Asp Tyr Lys Thr Gln
 580 585 590
 Lys Ala Leu Ala Phe Cys Gln Lys His Gln Ser Lys Asp Arg Ala Ala
 595 600 605
 Ser

<210> 754
 <211> 496
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0752

<400> 754
 Gly Trp Ala Leu His Thr Glu Phe Ala Pro Phe Leu Glu Asp Leu Val
 1 5 10 15
 His Gln Gln Val Ile Ser Pro Leu Asp Ile Ala Phe Ala Ser Lys His
 20 25 30
 Ile Ser Ser Asp Phe Glu Glu Ser Phe Val Phe Leu Ala Val Ser Ser
 35 40 45
 Ala Leu Trp Arg Tyr Gly His Pro Phe Leu Ser Leu Glu Glu Asn Arg
 50 55 60
 Ile Arg Pro Ser Leu Gly Gly Ile Ser Glu Thr Asp Leu Tyr Arg Gly
 65 70 75 80
 Phe His Asn Leu Pro Lys Glu Ala Arg Asp Lys Leu Phe Val Val Val
 85 90 95
 Ser Gly Arg Leu Tyr Leu Arg Ser Leu Tyr Thr Ile Arg Ser Lys Leu
 100 105 110
 Leu Asp Lys Leu Ser Leu Leu Cys Ser Ala Thr Pro Asn Tyr Phe Pro
 115 120 125
 Pro Ser Ile Asp Ser Ser Ile Leu Ser Glu Glu Gln Asn Phe Ile Phe
 130 135 140
 Asn Lys Ile Thr Gln Gly Cys Phe Ser Ile Val Ser Gly Gly Pro Gly
 145 150 155 160
 Thr Gly Lys Thr Phe Leu Ala Ala Gln Leu Ile Leu Ser Leu Val Lys
 165 170 175
 Gln Gln Pro Lys Leu Arg Ile Ala Ile Val Ser Pro Thr Gly Lys Ala
 180 185 190
 Thr Ser His Ile Arg Gln Ile Leu Met Lys Tyr Asn Ile Phe Asp Asp
 195 200 205
 Met Val Leu Met Gln Thr Val His His Phe Leu Gln Glu Tyr Ala Tyr
 210 215 220

Arg Arg Tyr Asn Ser Ile Asp Val Leu Leu Val Asp Glu Gly Ser Met
 225 230 235 240
 Val Thr Phe Asp Leu Leu Tyr Ser Leu Val Gln Thr Leu Gln Gly Tyr
 245 250 255
 Glu Lys Asp Lys Lys Leu Tyr Thr Ser Ser Leu Ile Ile Leu Gly Asp
 260 265 270
 Thr Asn Gln Leu Pro Pro Ile Gly Ile Gly Val Gly Asn Pro Leu Gln
 275 280 285
 Asp Leu Ile Gly Tyr Phe His Glu Asn Thr Phe Phe Leu Lys Thr Ser
 290 295 300
 His Arg Ala Lys Thr Gly Val Val Asp Gln Leu Thr Gln Ser Val Leu
 305 310 315 320
 Arg Gly Glu Met Ile Ser Phe Ser Pro Leu Pro Ser Ile Ser Ser Ala
 325 330 335
 Ile Glu Val Leu Lys Asn Arg Phe Val Lys Ser Leu Arg Gln Ser Glu
 340 345 350
 Ala Arg Leu Cys Val Leu Thr Pro Met Arg His Gly Pro Trp Gly Val
 355 360 365
 Leu Asn Leu Asn Thr Met Ile His Gln Arg Leu Ala Arg Ser Asp Pro
 370 375 380
 Asp Leu Arg Ile Pro Ile Met Val Thr Ser Arg Tyr Glu Thr Trp Gly
 385 390 395 400
 Leu Phe Asn Gly Asp Thr Gly Leu Leu Cys Leu Lys Thr Gln Lys Leu
 405 410 415
 His Phe Pro Gln His Glu Pro Ile Asp Ser Arg Ala Leu Ser Gln Tyr
 420 425 430
 Val Tyr Asn Tyr Val Met Ser Val His Lys Ser Gln Gly Ser Glu Tyr
 435 440 445
 Asp Glu Val Ile Val Ile Ile Pro Lys Gly Ser Glu Val Phe Gly Val
 450 455 460
 Ser Ile Leu Tyr Thr Ala Ile Thr Arg Ala Lys Tyr Arg Val Ser Val
 465 470 475 480
 Trp Gly Asp Pro Glu Thr Leu His Lys Ile Ile Lys Lys Ser Asn Tyr
 485 490 495

<210> 755
 <211> 283
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0753

<400> 755
 Ile Met Ala Thr Ala His Leu Gly Arg Gln Ala Leu Leu His Leu Arg
 1 5 10 15
 Ser Trp Thr Pro Ala Ile Arg Ala Ser Gly Asn Leu Phe Arg Gln Gln
 20 25 30
 Ser Met Ser Leu His Asn Asn Val Leu Phe Ala Gly Asp Ile Val Gly
 35 40 45
 Ala Ile Lys Asn Ser Thr Ala Ile Ser Arg His Ala Leu Gly Ser Ser
 50 55 60
 His Tyr Ala His Ala Ala Leu Gln Lys Thr Glu Gly Phe Leu Gly Ala
 65 70 75 80
 Ala Asp Gly Val Asn Thr Ala Val Ala Gly Ala Met Leu Trp Gly Gln
 85 90 95
 Leu Leu Asn Gly Ser Met Ile Phe Glu Thr Asp Glu Glu Thr Gly Glu
 100 105 110
 Leu Arg Arg Cys Asn Glu Ala Asp Ala Glu Gly Cys Met Thr Gln Lys
 115 120 125

Leu Gln Arg Arg Ser Ala Leu Thr Ile Thr Gly Lys Val Ala Arg Leu
 130 135 140
 Ala Ser Lys Thr Leu Gly Thr Ala Thr Phe Leu His Glu Met Asp Val
 145 150 155 160
 Val Ser Leu Gly Ala Asn Ala Asn Lys Ile Gly Cys Lys Val Thr Ser
 165 170 175
 Cys Leu Asn Leu Val Ala Thr Gly Cys Ser Leu Thr Glu Ser Ser Ile
 180 185 190
 Ser Leu Tyr Arg Ile Leu Ser Thr Arg Pro Glu Thr Ile Ser Asp Pro
 195 200 205
 Glu Asn Arg Asn Lys Pro Ser Ala Glu Phe Ala Ala Arg Ser Lys Ala
 210 215 220
 Ile Arg Asn Ala Phe Ile Ala Trp Leu Gly Asp Val Val Asp Leu Val
 225 230 235 240
 Cys Asp Ala Leu Gly Thr Leu Ser Leu Phe Leu Pro Ala Ile Leu Gly
 245 250 255
 Val His Ala Val Leu Ile Met Ala Ile Leu Gly Leu Ile Ser Cys Val
 260 265 270
 Ile Asn Phe Val Lys Asp Tyr Ala Lys Ile Gly
 275 280

<210> 756
 <211> 114
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0754

<400> 756
 Gln Phe Ile Leu Asn Leu Lys Val Leu Val Leu Ser Gly Asp Ile Met
 1 5 10 15
 Ala Pro Lys Lys Pro Asn Lys Lys Asn Val Ile Gln Arg Arg Pro Ser
 20 25 30
 Ala Glu Lys Arg Ile Leu Thr Ala Gln Lys Arg Glu Leu Ile Asn His
 35 40 45
 Ser Phe Lys Ser Lys Val Lys Thr Ile Val Lys Lys Phe Glu Ala Ser
 50 55 60
 Leu Lys Leu Asp Asp Thr Gln Ala Thr Leu Ser Asn Leu Gln Ser Val
 65 70 75 80
 Tyr Ser Val Val Asp Lys Ala Val Lys Arg Gly Ile Phe Lys Asp Asn
 85 90 95
 Lys Ala Ala Arg Ile Lys Ser Lys Ala Thr Leu Lys Val Asn Ala Arg
 100 105 110
 Ala Ser

<210> 757
 <211> 407
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0755

<400> 757
 Tyr Lys Asp Leu Phe Phe Met Leu Leu Val Arg Lys Trp Leu His Thr
 1 5 10 15
 Cys Phe Lys Tyr Trp Ile Tyr Phe Leu Pro Val Val Thr Leu Leu Leu
 20 25 30

Pro Leu Val Cys Tyr Pro Phe Leu Ser Ile Ser Gln Lys Ile Tyr Gly
 35 40 45
 Tyr Phe Val Phe Thr Thr Ile Ser Ser Leu Gly Trp Phe Phe Ala Leu
 50 55 60
 Arg Arg Arg Glu Asn Gln Leu Lys Thr Ala Ala Val Gln Leu Leu Gln
 65 70 75 80
 Thr Lys Ile Arg Lys Leu Thr Glu Asn Asn Glu Gly Leu Arg Gln Ile
 85 90 95
 Arg Glu Ser Leu Lys Glu His Gln Gln Glu Ser Ala Gln Leu Gln Ile
 100 105 110
 Gln Ser Gln Lys Leu Lys Asn Ser Leu Phe His Leu Gln Gly Leu Leu
 115 120 125
 Val Lys Thr Lys Gly Glu Gly Gln Lys Leu Glu Thr Leu Leu His
 130 135 140
 Arg Thr Glu Glu Asn Arg Cys Leu Lys Met Gln Val Asp Ser Leu Ile
 145 150 155 160
 Gln Glu Cys Gly Glu Lys Thr Glu Glu Val Gln Thr Leu Asn Arg Glu
 165 170 175
 Leu Ala Glu Thr Leu Ala Tyr Gln Gln Ala Leu Asn Asp Glu Tyr Gln
 180 185 190
 Ala Thr Phe Ser Glu Gln Arg Asn Met Leu Asp Lys Arg Gln Ile Tyr
 195 200 205
 Ile Gly Lys Leu Glu Asn Lys Val Gln Asp Leu Met Tyr Glu Ile Arg
 210 215 220
 Asn Leu Leu Gln Leu Glu Ser Asp Ile Ala Glu Asn Ile Pro Ser Gln
 225 230 235 240
 Glu Ser Asn Ala Val Thr Gly Asn Ile Ser Leu Gln Leu Ser Ser Glu
 245 250 255
 Leu Lys Lys Ile Ala Phe Lys Ala Glu Asn Ile Glu Ala Ala Ser Ser
 260 265 270
 Leu Thr Ala Ser Arg Tyr Leu His Thr Asp Thr Ser Val His Asn Tyr
 275 280 285
 Ser Leu Glu Cys Arg Gln Leu Phe Asp Ser Leu Arg Glu Glu Asn Leu
 290 295 300
 Gly Met Leu Phe Val Tyr Ala Arg Gln Ser Gln Arg Ala Val Phe Ala
 305 310 315 320
 Asn Ala Leu Phe Lys Thr Trp Thr Gly Tyr Cys Ala Glu Asp Phe Leu
 325 330 335
 Lys Phe Gly Ser Asp Ile Val Ile Ser Gly Gly Lys Gln Trp Met Glu
 340 345 350
 Asp Leu His Ser Ser Arg Glu Glu Cys Ser Gly Arg Leu Val Ile Lys
 355 360 365
 Thr Lys Ser Arg Gly His Leu Pro Phe Arg Tyr Cys Leu Met Ala Leu
 370 375 380
 Asn Lys Gly Pro Leu Cys Tyr His Val Leu Gly Val Leu Tyr Pro Leu
 385 390 395 400
 His Lys Glu Val Leu Gln Ser
 405

<210> 758
 <211> 596
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0756

<400> 758
 Ile Ser Tyr Leu Pro Leu Thr Lys Leu Ser Ser Lys Ala Arg Asn Pro
 1 5 10 15

Leu	Val	Leu	Phe	Gln	Val	Arg	Lys	Leu	Phe	Met	Asn	Thr	Gln	Asn	Ser		
			20					25					30				
Gln	Ala	Thr	Glu	Val	Ser	Ser	Glu	Glu	Glu	Ser	Gln	Lys	Lys	Leu	Glu		
		35					40					45					
Glu	Leu	Val	Ala	Leu	Ala	Lys	Glu	Gln	Gly	Phe	Ile	Thr	Tyr	Glu	Glu		
		50				55					60						
Ile	Asn	Glu	Ile	Leu	Pro	Met	Ser	Phe	Asp	Thr	Pro	Glu	Gln	Ile	Asp		
65					70				75						80		
Gln	Val	Leu	Ile	Phe	Leu	Thr	Gly	Met	Asp	Ile	Gln	Val	Leu	Asn	Gln		
				85					90					95			
Ile	Asp	Val	Glu	Arg	Gln	Lys	Glu	Lys	Lys	Lys	Glu	Ala	Lys	Glu	Leu		
		100						105						110			
Glu	Gly	Leu	Ala	Arg	Arg	Thr	Glu	Gly	Thr	Pro	Asp	Asp	Pro	Val	Arg		
		115					120					125					
Met	Tyr	Leu	Lys	Glu	Met	Gly	Thr	Val	Pro	Leu	Leu	Thr	Arg	Glu	Glu		
		130				135					140						
Glu	Val	Glu	Ile	Ser	Lys	Arg	Ile	Glu	Lys	Ala	Gln	Val	Gln	Ile	Glu		
					150					155					160		
Arg	Ile	Ile	Leu	Arg	Phe	Arg	Tyr	Ser	Ala	Lys	Glu	Ala	Ile	Ser	Ile		
				165					170					175			
Ala	His	Tyr	Leu	Ile	Ser	Gly	Lys	Glu	Arg	Phe	Asp	Lys	Ile	Ile	Ser		
			180				185						190				
Glu	Lys	Glu	Val	Glu	Asp	Lys	Thr	His	Phe	Leu	Lys	Leu	Leu	Pro	Lys		
		195					200					205					
Leu	Ile	Thr	Leu	Leu	Lys	Glu	Glu	Asp	Thr	Tyr	Leu	Glu	Asn	Leu	Leu		
		210				215					220						
Leu	Ser	Leu	Lys	Gln	Pro	Asp	Leu	Ser	Lys	Gln	Glu	Ala	Ala	Lys	Leu		
225					230					235					240		
Asn	Asp	Ser	Leu	Glu	Lys	Cys	Arg	Ile	Arg	Thr	Gln	Ala	Tyr	Leu	Arg		
			245						250					255			
Cys	Phe	His	Cys	Arg	His	Asn	Val	Thr	Glu	Asp	Phe	Gly	Glu	Val	Val		
			260					265					270				
Phe	Lys	Ala	Tyr	Asp	Ser	Phe	Leu	His	Leu	Glu	Gln	Gln	Ile	Asn	Asp		
		275					280					285					
Leu	Lys	Val	Arg	Ala	Glu	Arg	Asn	Lys	Phe	Ala	Ala	Ala	Lys	Leu	Ala		
		290					295				300						
Ala	Ala	Lys	Arg	Lys	Leu	Tyr	Lys	Arg	Glu	Val	Ala	Ala	Gly	Arg	Thr		
305					310				315						320		
Leu	Glu	Glu	Phe	Lys	Lys	Asp	Val	Arg	Met	Leu	Gln	Arg	Trp	Met	Asp		
				325					330					335			
Lys	Ser	Gln	Glu	Ala	Lys	Lys	Glu	Met	Val	Glu	Ser	Asn	Leu	Arg	Leu		
			340					345					350				
Val	Ile	Ser	Ile	Ala	Lys	Lys	Tyr	Thr	Asn	Arg	Gly	Leu	Ser	Phe	Leu		
		355					360					365					
Asp	Leu	Ile	Gln	Glu	Gly	Asn	Met	Gly	Leu	Met	Lys	Ala	Val	Glu	Lys		
		370				375					380						
Phe	Glu	Tyr	Arg	Arg	Gly	Tyr	Lys	Phe	Ser	Thr	Tyr	Ala	Thr	Trp	Trp		
385					390					395					400		
Ile	Arg	Gln	Ala	Val	Thr	Arg	Ala	Ile	Ala	Asp	Gln	Ala	Arg	Thr	Ile		
				405					410					415			
Arg	Ile	Pro	Val	His	Met	Ile	Glu	Thr	Ile	Asn	Lys	Val	Leu	Arg	Gly		
			420					425					430				
Ala	Lys	Lys	Leu	Met	Met	Glu	Thr	Gly	Lys	Glu	Pro	Thr	Pro	Glu	Glu		
		435					440					445					
Leu	Ala	Glu	Glu	Leu	Gly	Leu	Thr	Pro	Asp	Arg	Val	Arg	Glu	Ile	Tyr		
		450				455					460						
Lys	Ile	Ala	Gln	His	Pro	Ile	Ser	Leu	Gln	Ala	Glu	Val	Gly	Glu	Gly		
465					470					475					480		
Ser	Glu	Ser	Ser	Phe	Gly	Asp	Phe	Leu	Glu	Asp	Thr	Ala	Val	Glu	Ser		
				485					490					495			

Pro Ala Glu Ala Thr Gly Tyr Ser Met Leu Lys Asp Lys Met Lys Glu
 500 505 510
 Val Leu Lys Thr Leu Thr Asp Arg Glu Arg Phe Val Leu Ile His Arg
 515 520 525
 Phe Gly Leu Leu Asp Gly Lys Pro Lys Thr Leu Glu Glu Val Gly Ser
 530 535 540
 Ala Phe Asn Val Thr Arg Glu Arg Ile Arg Gln Ile Glu Ala Lys Ala
 545 550 555 560
 Leu Arg Lys Met Arg His Pro Ile Arg Ser Lys Gln Leu Arg Ala Phe
 565 570 575
 Leu Asp Leu Leu Glu Glu Glu Lys Thr Gly Thr Ser Lys Val Lys Ser
 580 585 590
 Leu Lys Ser Lys
 595

<210> 759
 <211> 142
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0757

 <400> 759
 Pro Cys Ile Lys Asn Ile Ala Leu Val Ile Ala Ile Glu Arg Tyr Gln
 1 5 10 15
 Leu Ile Ile Ser Lys Phe Arg Met Trp Leu Phe Leu Gly Cys Ser Val
 20 25 30
 Glu Glu Arg His Phe Lys Gln Pro Val Leu Ile Ser Val Thr Phe Ser
 35 40 45
 Tyr Asn Glu Val Pro Ser Ala Cys Leu Ser Asp Lys Leu Ser Asp Ala
 50 55 60
 Cys Cys Tyr Leu Glu Val Thr Ser Leu Ile Glu Glu Ile Ala Asn Thr
 65 70 75 80
 Lys Pro Tyr Ala Leu Ile Glu His Leu Ala Asn Glu Leu Phe Asp Ser
 85 90 95
 Leu Val Ile Ser Phe Gly Asp Lys Ala Ser Lys Ile Asp Leu Glu Val
 100 105 110
 Glu Lys Glu Arg Pro Pro Val Pro Asn Leu Leu Asn Pro Ile Lys Phe
 115 120 125
 Thr Ile Ser Lys Glu Leu Cys Pro Ser Pro Val Leu Ser Ala
 130 135 140

<210> 760
 <211> 452
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0758

 <400> 760
 Arg Ala Met Ser Glu Pro Arg Phe Val Cys Leu Ser Leu Gly Ser Asn
 1 5 10 15
 Leu Gly Asn Arg Phe Lys Asn Leu Gln Ile Ala Arg Thr Leu Leu Gly
 20 25 30
 Glu Gln Ala Val Leu Gly Leu Arg Ser Ser Val Ile Leu Glu Thr Glu
 35 40 45
 Ala Leu Leu Leu Pro Gly Ser Pro Pro Glu Trp Asp Leu Pro Tyr Phe
 50 55 60

Asn Ser Val Leu Val Gly Glu Thr Thr Leu Ser Leu Arg Glu Leu Leu
 65 70 75 80
 Val Thr Ile Lys Gln Ile Glu Lys Val Val Gly Arg Ala Glu Glu Ser
 85 90 95
 Pro Pro Trp Ser Pro Arg Thr Ile Asp Val Asp Ile Leu Leu Tyr Gly
 100 105 110
 Asp Glu Ser Phe Cys Cys Asp His Thr Glu Ile Thr Ile Pro Leu Ser
 115 120 125
 Asn Leu Leu Ser Arg Pro Phe Leu Ile Ala Leu Ile Ala Ser Leu Cys
 130 135 140
 Pro Tyr Arg Arg Phe Cys Thr Gln Gly Ser Pro Tyr His Asn Phe Thr
 145 150 155 160
 Phe Gly Glu Leu Ala His His Leu Pro Ser Pro Pro Gly Met Ile Arg
 165 170 175
 Arg Ser Leu Ser Pro Asp Thr Met Leu Met Gly Val Val Asn Val Thr
 180 185 190
 Asn Asp Ser Met Ser Asp Gly Gly Met Phe Leu Asp Pro Glu Lys Ala
 195 200 205
 Val Ala Gln Ala Glu Lys Leu Phe Thr Glu Gly Ala Ala Val Ile Asp
 210 215 220
 Phe Gly Ala Gln Ala Thr Asn Pro Lys Val Lys Gln Phe Leu Ser Val
 225 230 235 240
 Asp Gln Glu Trp Glu Arg Leu Glu Pro Val Leu Arg Leu Leu Lys Glu
 245 250 255
 Thr Trp Ser Asn Arg Lys Gln Tyr Pro Ile Ile Ser Leu Asp Thr Phe
 260 265 270
 Tyr Pro Glu Ile Ile Leu Arg Ala Met Asp Ile Tyr Pro Ile Gln Trp
 275 280 285
 Ile Asn Asp Val Ser Gly Gly Ser Gln Ser Met Ala Glu Val Ala Arg
 290 295 300
 Asp Cys Glu Leu Ser Leu Val Met Asn His Ser Ser Ser Leu Pro Val
 305 310 315 320
 Asp Pro Lys Asn Ile Leu Ser Phe Ser Val Pro Ile Gly Glu Gln Leu
 325 330 335
 Leu Ser Trp Gly Glu Lys Gln Leu Lys Met Phe Ser Asp Val Gly Leu
 340 345 350
 Asn Ala Asn Gln Val Ile Phe Asp Pro Gly Ile Gly Phe Gly Lys Gly
 355 360 365
 Ala Ala Gln Ser Leu Ala Thr Leu Tyr Glu Ile Ala Lys Phe Lys Arg
 370 375 380
 Leu Gly Cys Pro Ile Leu Ile Gly His Ser Arg Lys Ser Phe Leu Ser
 385 390 395 400
 Leu Phe Gly Asn His Asp Pro Lys Asp Arg Asp Trp Glu Thr Val Gly
 405 410 415
 Leu Ser Ile Leu Leu Gln Gln Gln Gly Val Asp Tyr Leu Arg Val His
 420 425 430
 Asn Val Ala Ala His Gln Lys Ala Leu Ser Val Ala Ala Cys Glu Ala
 435 440 445
 Cys Ala Pro Ile
 450

<210> 761
 <211> 188
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0759

<400> 761

Leu	Leu	Val	Lys	Pro	Val	His	Pro	Ser	Asn	Phe	Glu	Asn	Pro	Leu	Gly
1				5					10					15	
Val	Glu	Met	Cys	Lys	Asn	Arg	Gly	Val	Arg	Gly	Ile	Val	Ala	Cys	Asp
			20					25					30		
Pro	Arg	Gly	Val	Ile	Gly	Leu	Glu	Gly	Lys	Leu	Pro	Trp	His	Tyr	Pro
		35					40					45			
Glu	Asp	Leu	Gln	Phe	Phe	Ser	Glu	Thr	Ile	Gln	Lys	Phe	Pro	Ile	Val
	50					55				60					
Met	Gly	Arg	Lys	Thr	Trp	Glu	Thr	Leu	Pro	Arg	Lys	Tyr	Phe	Val	Asp
65					70					75					80
Arg	Ala	Val	Val	Val	Phe	Ser	His	Glu	Lys	Arg	Gln	Gly	Val	His	Gly
				85					90					95	
Glu	Ile	Trp	Val	Thr	Ser	Leu	Glu	Glu	Phe	Leu	Leu	Leu	Asp	Leu	Ser
			100					105					110		
Ser	Pro	Thr	Phe	Leu	Ile	Gly	Gly	Gly	Glu	Leu	Tyr	Ser	Leu	Phe	Leu
		115					120						125		
Glu	Asn	Gln	Ile	Val	Arg	Asp	Phe	Phe	Ile	Ser	His	Ile	Lys	Lys	Glu
	130					135					140				
Tyr	Ala	Gly	Asp	Thr	Phe	Pro	Leu	Ser	Leu	Leu	Glu	Thr	Trp	Thr	
145					150				155						160
Lys	Thr	Val	Leu	Arg	Asp	Thr	Gln	Lys	Ile	Thr	Thr	Cys	Tyr	Tyr	Glu
				165					170						175
Asn	His	His	Ser	Gln	Asn	Thr	Lys	Asn	Ile	Ser	Leu				
			180					185							

<210> 762

<211> 264

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0760

<400> 762

Arg	His	Gly	Pro	Lys	Leu	Cys	Leu	Glu	Ile	Pro	Lys	Arg	Ser	Gln	Arg
1				5					10					15	
Val	Thr	Met	Lys	Ile	Thr	Thr	Val	Lys	Thr	Pro	Lys	Ile	Tyr	Pro	Tyr
			20					25					30		
Asp	Asp	Leu	Tyr	Ser	Ile	Leu	Glu	Ser	Ser	Leu	Pro	Lys	Leu	Asn	Glu
		35					40					45			
Arg	Ser	Ile	Val	Val	Ile	Thr	Ser	Lys	Ile	Val	Ser	Leu	Cys	Glu	Gly
	50					55					60				
Ala	Val	Val	Glu	Leu	Glu	Lys	Val	Ser	Lys	Asp	Glu	Leu	Ile	Lys	Gln
65					70					75					80
Glu	Ala	Asp	Ala	Tyr	Val	Phe	Val	Glu	Lys	Tyr	Gly	Ile	Tyr	Leu	Thr
				85					90					95	
Lys	Lys	Trp	Gly	Ile	Leu	Ile	Pro	Ser	Ala	Gly	Ile	Asp	Glu	Ser	Asn
			100					105					110		
Val	Glu	Gly	Tyr	Phe	Val	Leu	Tyr	Pro	Arg	Asp	Phe	Leu	Leu	Ser	Val
		115						120					125		
Asn	Thr	Leu	Gly	Asp	Trp	Leu	Arg	Asn	Phe	Tyr	His	Leu	Glu	His	Cys
	130					135					140				
Gly	Ile	Ile	Ile	Ser	Asp	Ser	His	Thr	Thr	Pro	Leu	Arg	Arg	Gly	Thr
145					150					155					160
Met	Gly	Leu	Gly	Leu	Cys	Trp	Asn	Gly	Phe	Phe	Pro	Leu	Tyr	Asn	Tyr
				165					170						175
Val	Gly	Lys	Pro	Asp	Cys	Phe	Gly	Arg	Ala	Leu	Lys	Met	Thr	Tyr	Ser
			180					185					190		
Asn	Leu	Leu	Asp	Gly	Leu	Ser	Ala	Ala	Ala	Val	Leu	Cys	Met	Gly	Glu
			195				200						205		

Gly Asp Glu Gln Thr Pro Ile Ala Ile Ile Glu Glu Ala Pro Lys Ile
 210 215 220
 Thr Phe His Ser Ser Pro Thr Thr Leu Gln Asp Met Ser Thr Leu Ala
 225 230 235 240
 Ile Ala Glu Asp Glu Asp Leu Tyr Gly Pro Leu Leu Gln Ser Met Ala
 245 250 255
 Trp Glu Thr Pro Ala Pro Thr Ser
 260

<210> 763
 <211> 226
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0761

<400> 763
 Gly Ile Met Thr Ser Trp Ile Glu Leu Leu Asp Lys Gln Ile Glu Asp
 1 5 10 15
 Gln His Met Leu Lys His Glu Phe Tyr Gln Arg Trp Ser Glu Gly Lys
 20 25 30
 Leu Glu Lys Gln Gln Leu Gln Ala Tyr Ala Lys Asp Tyr Tyr Leu His
 35 40 45
 Ile Lys Ala Phe Pro Cys Tyr Leu Ser Ala Leu His Ala Arg Cys Asp
 50 55 60
 Asp Leu Gln Ile Arg Arg Gln Ile Leu Glu Asn Leu Met Asp Glu Glu
 65 70 75 80
 Ala Gly Asn Pro Asn His Ile Asp Leu Trp Arg Gln Phe Ala Leu Ser
 85 90 95
 Leu Gly Val Ser Glu Glu Glu Leu Ala Asn His Glu Phe Ser Gln Ala
 100 105 110
 Ala Gln Asp Met Val Ala Thr Phe Arg Arg Leu Cys Asp Met Pro Gln
 115 120 125
 Leu Ala Val Gly Leu Gly Ala Leu Tyr Thr Tyr Glu Ile Gln Ile Pro
 130 135 140
 Gln Val Cys Val Glu Lys Ile Arg Gly Leu Lys Glu Tyr Phe Gly Val
 145 150 155 160
 Ser Ala Arg Gly Tyr Ala Tyr Phe Thr Val His Gln Glu Ala Asp Ile
 165 170 175
 Lys His Ala Ser Glu Glu Lys Glu Met Leu Gln Thr Leu Val Gly Arg
 180 185 190
 Glu Asn Pro Asp Ala Val Leu Gln Gly Ser Gln Glu Val Leu Asp Thr
 195 200 205
 Leu Trp Asn Phe Leu Ser Ser Phe Ile Asn Ser Thr Glu Pro Cys Ser
 210 215 220
 Cys Lys
 225

<210> 764
 <211> 380
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0762

<400> 764
 Glu Glu Leu Leu Tyr Phe Ser Arg Phe Ser Glu Lys Gln Asn Tyr Ser
 1 5 10 15

Leu Gly Asn Met Glu Thr Lys Arg Ser Ile Tyr Met Asn Leu Pro Asp
 20 25 30
 Arg Lys Lys Ala Leu Glu Ala Ala Val Ala Tyr Ile Glu Lys Gln Phe
 35 40 45
 Gly Ala Gly Ser Ile Met Ser Leu Gly Arg His Ser Ala Thr His Glu
 50 55 60
 Ile Ser Thr Ile Lys Thr Gly Ala Leu Ser Leu Asp Leu Ala Leu Gly
 65 70 75 80
 Ile His Gly Val Pro Lys Gly Arg Val Ile Glu Ile Phe Gly Pro Glu
 85 90 95
 Ser Ser Gly Lys Thr Thr Leu Ala Thr His Ile Val Ala Asn Ala Gln
 100 105 110
 Lys Met Gly Gly Val Ala Ala Tyr Ile Asp Ala Glu His Ala Leu Asp
 115 120 125
 Pro Ser Tyr Ala Ser Leu Ile Gly Val Asn Ile Asp Asp Leu Met Ile
 130 135 140
 Ser Gln Pro Asp Cys Gly Glu Asp Ala Leu Ser Ile Ala Glu Leu Leu
 145 150 155 160
 Ala Arg Ser Gly Ala Val Asp Val Ile Val Ile Asp Ser Val Ala Ala
 165 170 175
 Leu Val Pro Lys Ser Glu Leu Glu Gly Asp Ile Gly Asp Val His Val
 180 185 190
 Gly Leu Gln Ala Arg Met Met Ser Gln Ala Leu Arg Lys Leu Thr Ala
 195 200 205
 Thr Leu Ser Arg Ser Gln Thr Cys Ala Val Phe Ile Asn Gln Ile Arg
 210 215 220
 Glu Lys Ile Gly Val Ser Phe Gly Asn Pro Glu Thr Thr Thr Gly Gly
 225 230 235 240
 Arg Ala Leu Lys Phe Tyr Ser Ser Ile Arg Leu Asp Ile Arg Arg Ile
 245 250 255
 Gly Ser Ile Lys Gly Ser Asp Asn Ser Asp Ile Gly Asn Arg Ile Lys
 260 265 270
 Val Lys Val Ala Lys Asn Lys Leu Ala Pro Pro Phe Arg Ile Ala Glu
 275 280 285
 Phe Asp Ile Leu Phe Asn Glu Gly Ile Ser Ser Ala Gly Cys Ile Leu
 290 295 300
 Asp Leu Ala Val Glu Tyr Asn Ile Ile Glu Lys Lys Gly Ser Trp Phe
 305 310 315 320
 Asn Tyr Gln Glu Lys Lys Leu Gly Gln Gly Arg Glu Phe Val Arg Glu
 325 330 335
 Glu Leu Lys Arg Asn Arg Lys Leu Phe Glu Glu Ile Glu Lys Arg Ile
 340 345 350
 Tyr Asp Val Ile Ala Ala Asn Lys Thr Pro Ser Val His Ala Asn Glu
 355 360 365
 Thr Pro Gln Glu Val Pro Ala Gln Thr Val Glu Ala
 370 375 380

<210> 765
 <211> 183
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0763

<400> 765
 Asn Phe Pro Met Thr Asp Pro Lys Ile Glu Lys Ser Ala Leu Arg Lys
 1 5 10 15
 Leu Phe Ile Ser Ile Arg Arg Asp Leu Ser Glu Glu Arg Lys His Glu
 20 25 30

Ala Ser Ser Ala Val Ala Ser Phe Val Arg Ser Phe Ser Lys Glu Ser
 35 40 45
 Val Val Val Leu Ser Phe Val Ser Phe Asn His Glu Ile Asp Met Gln Glu
 50 55 60
 Ala Asn Arg Ile Leu Ile Gln Lys Cys Thr Leu Ala Leu Pro Lys Ile
 65 70 75 80
 Asp Gln Glu Asn Leu Tyr Pro Val Leu Ile Pro Ser Ile Asp Asp Leu
 85 90 95
 Ile Ser Val Val His Pro Lys Asp Pro Phe Ser Lys Gln Thr Pro Ile
 100 105 110
 Ser Ser Asp Lys Ile Thr His Val Leu Val Pro Gly Leu Ala Phe Asp
 115 120 125
 Gln Gln Gly Tyr Arg Leu Gly Tyr Gly His Gly Phe Tyr Asp Arg Trp
 130 135 140
 Leu Ala Gln His Pro Tyr Pro Ser Ile Arg Thr Ile Gly Ile Gly Tyr
 145 150 155 160
 Cys Glu Gln Lys Ile Asp Arg Leu Pro Gln Glu Ser His Asp Ile Pro
 165 170 175
 Leu Ser Gln Ile Tyr Leu Cys
 180

<210> 766
 <211> 432
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0764

 <400> 766
 Gly Tyr Lys Ser Met Asp Ile Lys Lys Leu Phe Cys Leu Phe Leu Cys
 1 5 10 15
 Ser Ser Leu Ile Ala Met Ser Pro Ile Tyr Gly Lys Thr Gly Asp Tyr
 20 25 30
 Glu Lys Leu Thr Leu Thr Gly Ile Asn Ile Ile Asp Arg Asn Gly Leu
 35 40 45
 Ser Glu Thr Ile Cys Ser Lys Glu Lys Leu Lys Lys Tyr Thr Lys Val
 50 55 60
 Asp Phe Leu Ala Pro Gln Pro Tyr Gln Lys Val Met Arg Met Tyr Lys
 65 70 75 80
 Asn Lys Arg Gly Asp Asn Val Ser Cys Leu Thr Ala Tyr His Thr Asn
 85 90 95
 Gly Gln Ile Lys Gln Tyr Leu Glu Cys Leu Asn Asn Arg Ala Tyr Gly
 100 105 110
 Arg Tyr Arg Glu Trp His Val Asn Gly Asn Ile Lys Ile Gln Ala Glu
 115 120 125
 Val Ile Gly Gly Ile Ala Asp Leu His Pro Ser Ala Glu Ser Gly Trp
 130 135 140
 Leu Phe Asp Gln Thr Thr Phe Ala Tyr Asn Asp Glu Gly Ile Leu Glu
 145 150 155 160
 Ala Ala Ile Val Tyr Glu Lys Gly Leu Leu Glu Gly Ser Ser Val Tyr
 165 170 175
 Tyr His Thr Asn Gly Asn Ile Trp Lys Glu Cys Pro Tyr His Lys Gly
 180 185 190
 Val Pro Gln Gly Lys Phe Leu Thr Tyr Thr Ser Ser Gly Lys Leu Leu
 195 200 205
 Lys Glu Gln Asn Tyr Gln Gln Gly Lys Arg His Gly Leu Ser Ile Arg
 210 215 220
 Tyr Ser Glu Asp Ser Glu Glu Asp Val Leu Ala Trp Glu Glu Tyr His
 225 230 235 240

<210> 768
 <211> 464
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0766

<400> 768
 Ala Met Asn Phe Lys Leu Pro Val Tyr His Ile Gly Leu Thr Lys Ala
 1 5 10 15
 Glu Asn Asn Thr Ile Lys Ile Ala Ile Leu Gln Lys Thr Cys Lys Gly
 20 25 30
 Trp Ile Val Cys His Cys Glu Gln Ile Pro Glu Gly Lys Thr Trp Ser
 35 40 45
 Leu Pro Lys Lys Tyr Phe Ala Ala Pro Thr Thr Phe Ser Leu Gln Gly
 50 55 60
 Ser Asp Ile Leu Val Lys Ser Ser Ser Ser Ser Leu Lys Asn Arg Lys
 65 70 75 80
 Asn Ile Leu Lys Val Ala Leu Thr Asn Leu Glu Ala Ser Leu Ala Leu
 85 90 95
 Pro Trp Glu Ser Leu Ile Val Gln Pro Gln Leu Gly Lys Pro Thr Asp
 100 105 110
 Arg Gly Glu Thr Pro Leu Thr Leu Trp Ile Ala Gln Lys Asn Thr Leu
 115 120 125
 Lys Lys Glu Leu Ser Phe Leu Ser Gln Ala Gln Ile Phe Pro Asp Lys
 130 135 140
 Leu Ser Cys Arg Ala Ala Asp Ile Phe Phe Leu Ala Glu Gln Ser Pro
 145 150 155 160
 Leu Lys Ser Leu Pro Ala Tyr Leu Leu Ile Tyr Gly Gly Ser Glu Glu
 165 170 175
 Val Thr Cys Ile Phe Val Lys Asn His Ala Ile Ala Val Ala Arg Ser
 180 185 190
 Phe Ser Asn His Ser Thr Lys Lys Ser Cys Asp Asp Ile His Ala Thr
 195 200 205
 Leu Gln Tyr Ile Gln Glu Thr Phe Pro Gln Thr Val Leu Pro Ala Ile
 210 215 220
 His Val Ala Gln Ile Ser Pro Asn Leu Gln Lys Ile Leu Glu Gln Lys
 225 230 235 240
 Leu Ser Leu Pro Leu Val Val Cys Gln Ser Met Thr Tyr Gly Val Glu
 245 250 255
 Asp Glu Asp Trp Glu Ile Tyr Gly Asp Thr Ile Ala Ala Ala His His
 260 265 270
 Gly Ala Ser Arg Arg Pro Leu Thr Phe Pro Tyr Asp Ala Thr Ser Val
 275 280 285
 Ser Pro Ala Ala Gln Lys His Trp Leu Leu Arg Ser Ser Leu Leu Ile
 290 295 300
 Gly Lys Tyr Ala Leu Met Ala Thr Val Val Val Ser Leu Gly Ser Val
 305 310 315 320
 Leu Lys Leu Lys Ser Leu Ser Ser Ser Ala Ser Asn His Phe Ala Phe
 325 330 335
 Ala Cys Pro Glu Glu Gly Val Leu Pro Arg Ser Leu Lys Ala Ala Glu
 340 345 350
 Lys Thr Val Lys Ala Ile Gly Lys Lys Asn Ser Ala Ser Asn Tyr Pro
 355 360 365
 Leu Leu Pro Thr Ile Pro Thr Ser Glu Gln Thr Leu Lys Phe Leu Leu
 370 375 380
 Ala Leu Gly Lys Ser Ser Pro Ser Ile Lys Phe Ser Tyr Phe Ser Tyr
 385 390 395 400
 Thr Met Thr Ser Tyr Pro Ser Lys Asp Asn Pro Ser Leu Pro Tyr Ser
 405 410 415

Ala Leu Val Glu Val Lys Gly Gln Gly Gln Pro Glu Asp Ile Pro Gln
420 425 430
Phe Leu Lys Lys Ile Ser Ser His Pro Lys Leu Gln His Val Ser Glu
435 440 445
Ser Leu Glu Asp Gln Arg Ser Phe Lys Leu Gln Phe Thr Leu Ser Ser
450 455 460

<210> 769
<211> 100
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0767

<400> 769
Asn Ile Met Leu Ser Tyr Leu Leu Arg Thr Ala Ile Asn Val Tyr Ser
1 5 10 15
Phe Leu Ile Leu Ala Tyr Ile Phe Ala Ser Trp Val Pro Asp Cys Gln
20 25 30
Ser Ala Arg Trp Tyr Gln Leu Val Ser Lys Cys Val Asp Pro Phe Leu
35 40 45
Asn Phe Phe Arg Arg Phe Val Pro Arg Ile Gly Phe Ile Asp Pro Ser
50 55 60
Pro Phe Val Gly Leu Leu Cys Leu Gly Ile Leu Pro Phe Val Ile Leu
65 70 75 80
Arg Val Leu Arg Phe Ile Ile Leu Asn Ile Phe His Ser Pro Trp Leu
85 90 95
Leu Gln Tyr Leu
100

<210> 770
<211> 340
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0768

<400> 770
Tyr Phe Ser Phe Ser Met Ala Ala Pro Ile Phe Ile Lys Asn Ile Leu
1 5 10 15
Leu Arg Ser Ser Ile Val Tyr Ala Pro Leu Ala Gly Phe Ser Asp Tyr
20 25 30
Pro Tyr Arg Cys Met Ser Ala Leu Tyr Gln Pro Gly Leu Met Phe Cys
35 40 45
Glu Met Val Lys Val Glu Gly Ile Leu Tyr Ala Pro Glu Arg Thr Ser
50 55 60
Lys Leu Leu Asp Tyr Asn Glu Asn Met Arg Pro Ile Gly Ala Gln Leu
65 70 75 80
Cys Gly Ser Asn Pro Glu Thr Ser Gly Glu Ala Ala Lys Ile Leu Glu
85 90 95
Gly Leu Gly Phe Asp Leu Ile Asp Leu Asn Cys Gly Cys Pro Thr Asp
100 105 110
Lys Ile Thr Lys Asp Gly Ser Gly Ser Gly Leu Leu Lys Thr Pro Glu
115 120 125
Leu Ile Gly Arg Ile Leu Asp Lys Ile Ile Asn Ser Val Ser Ile Pro
130 135 140
Val Thr Val Lys Ile Arg Ser Gly Trp Asp Met Glu His Ile Asn Val
145 150 155 160

Glu Asp Thr Val Arg Ile Ile Arg Asp Ala Gly Ala Ser Ala Val Phe
 165 170 175
 Val His Gly Arg Thr Arg Ala Gln Gly Tyr His Gly Pro Ser Lys Gln
 180 185 190
 Glu Tyr Ile Ser Arg Ala Lys Ala Ala Gly Lys Glu Phe Pro Val
 195 200 205
 Phe Gly Asn Gly Asp Ile Phe Ser Pro Glu Ala Ala Gln Ala Met Leu
 210 215 220
 Thr Thr Gly Cys Asp Gly Val Leu Val Ala Arg Gly Thr Leu Gly Ala
 225 230 235 240
 Pro Trp Ile Gly Lys Gln Ile Gln Asp Tyr Leu Thr Thr Gly Ser Tyr
 245 250 255
 Glu Lys Ile Pro Phe Ile Lys Arg Lys Ala Ala Phe Leu Glu His Met
 260 265 270
 Arg Leu Val Glu Asp Tyr Tyr Gln Ser Glu Thr Lys Phe Leu Ser Glu
 275 280 285
 Thr Arg Lys Leu Cys Gly His Tyr Leu Ile Ser Ala Ala Lys Val Arg
 290 295 300
 Phe Leu Arg Ser Ser Leu Ala Lys Ala Thr Ser Tyr Gln Glu Val Tyr
 305 310 315 320
 Gln Leu Val Asn Asp Tyr Glu Glu Ala Asp Asp Ser Ser Leu Glu Thr
 325 330 335
 Phe Val Lys Cys
 340

<210> 771
 <211> 881
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0769

<400> 771
 Ser Ile Gln Gly Pro His Ala Ile Arg Leu Met Lys Lys Ser Leu Ile
 1 5 10 15
 Ile Val Glu Ser Pro Ala Lys Ile Lys Thr Leu Gln Lys Leu Leu Gly
 20 25 30
 Ser Glu Phe Val Phe Ala Ser Ser Ile Gly His Ile Val Asp Leu Pro
 35 40 45
 Ala Lys Glu Phe Gly Ile Asp Val Asp His Asp Phe Glu Pro Gln Tyr
 50 55 60
 Gln Val Leu Pro Asp Lys Gln Glu Val Ile Asn His Ile Arg Lys Leu
 65 70 75 80
 Ala Ala Lys Cys Glu Lys Val Tyr Leu Ser Pro Asp Pro Asp Arg Glu
 85 90 95
 Gly Glu Ala Ile Ala Trp His Ile Ala Asn Gln Leu Pro Asp Ser Pro
 100 105 110
 Leu Ile Gln Arg Val Ser Phe Asn Ala Ile Thr Lys Asn Ala Val Thr
 115 120 125
 Glu Ala Leu Lys His Pro Arg Thr Ile Asp Met Ala Leu Val Asn Ala
 130 135 140
 Gln Gln Ala Arg Arg Leu Leu Asp Arg Ile Val Gly Tyr Lys Ile Ser
 145 150 155 160
 Pro Ile Leu Ser Arg Lys Leu Gln Gln Arg Ser Gly Ile Ser Ala Gly
 165 170 175
 Arg Val Gln Ser Val Ala Leu Lys Leu Val Val Asp Arg Glu Lys Ala
 180 185 190
 Ile Asp Ala Phe Val Pro Val Glu Tyr Trp Asn Leu Arg Val Leu Met
 195 200 205

Gln Asp Pro Lys Thr Thr Lys Thr Phe Trp Ala His Leu Tyr Ala Val
 210 215 220
 Gln Gly Lys Lys Trp Glu Lys Glu Ile Pro Glu Gly Lys Thr Glu Asn
 225 230 235 240
 Asp Val Leu Leu Ile Asn Ser Glu Glu Lys Ala Arg His Tyr Ala Glu
 245 250 255
 Leu Leu Glu Lys Ser Ser Tyr Thr Ile Thr Arg Val Glu Ala Lys Ala
 260 265 270
 Lys Arg Arg Phe Ala Pro Pro Pro Phe Ile Thr Ser Thr Leu Gln Gln
 275 280 285
 Glu Ala Ser Arg His Phe Arg Phe Ser Ala Ser Arg Thr Met Ser Ile
 290 295 300
 Ala Gln Thr Leu Tyr Glu Gly Val Asp Leu Asp Ser Glu Asp Ser Thr
 305 310 315 320
 Gly Leu Ile Thr Tyr Met Arg Thr Asp Ser Val Arg Val Asp Pro Glu
 325 330 335
 Ala Leu Thr Thr Val Arg Glu Tyr Ile Gln Gln Thr Phe Gly Lys Glu
 340 345 350
 Tyr Leu Pro Glu Lys Ala Asn Val Tyr Thr Thr Lys Lys Met Thr Gln
 355 360 365
 Asp Ala His Glu Ala Ile Arg Pro Thr Asp Ile Asn Leu Thr Pro Asp
 370 375 380
 Lys Leu Lys Asn Lys Leu Ser Asp Asp Gln Phe Lys Val Tyr Asn Leu
 385 390 395 400
 Ile Trp Lys Arg Phe Val Ala Ser Gln Ile Thr Pro Ala Ile Tyr Asp
 405 410 415
 Thr Leu Ala Val Gln Ile Thr Thr Asp Thr Glu Ile Asp Leu Arg Ala
 420 425 430
 Ser Gly Ser Leu Leu Lys Phe Lys Gly Phe Leu Ala Val Tyr Glu Glu
 435 440 445
 Lys Gln Asp Asp Glu Asn Asp Gln Glu Glu Asp His Pro Leu Pro Pro
 450 455 460
 Leu His Ala Gln Asp Ala Leu Ile Lys Glu Glu Val Ser Gln Glu Gln
 465 470 475 480
 Ala Phe Thr Lys Pro Leu Pro Arg Phe Thr Glu Ala Ser Leu Val Lys
 485 490 495
 Glu Leu Glu Lys Ser Gly Ile Gly Arg Pro Ser Thr Tyr Ala Thr Ile
 500 505 510
 Met Asn Lys Ile Gln Ser Arg Glu Tyr Thr Thr Lys Glu Asn Gln Arg
 515 520 525
 Leu Arg Pro Thr Glu Leu Gly Lys Ile Ile Ser Gln Phe Leu Glu Thr
 530 535 540
 Asn Phe Pro Arg Ile Met Asp Ile Gly Phe Thr Ala Leu Met Glu Asp
 545 550 555 560
 Glu Leu Glu Leu Ile Ala Asp Asn Lys Lys Pro Trp Lys Leu Leu Leu
 565 570 575
 Gln Glu Phe Trp Thr Thr Phe Leu Pro Val Val Ile Thr Ala Glu Lys
 580 585 590
 Glu Ala Val Ile Pro Arg Ile Leu Thr Asn Ile Glu Cys Ser Lys Cys
 595 600 605
 His Lys Gly Lys Leu Val Lys Ile Trp Ser Lys Asn Ser Tyr Phe Tyr
 610 615 620
 Gly Cys Ser Glu Tyr Pro Glu Cys Asp Tyr Arg Thr Ser Glu Glu Glu
 625 630 635 640
 Leu Ala Phe Asn Lys Glu Asp Tyr Ala Glu Asp Thr Pro Trp Asp Ser
 645 650 655
 Pro Cys Pro Leu Cys Gly Gly Val Met Lys Val Arg His Gly Arg Tyr
 660 665 670
 Gly Thr Phe Leu Gly Cys Glu Lys Tyr Pro Glu Cys Arg Gly Thr Ile
 675 680 685

Ser Ile His Lys Lys Gly Glu Glu Ile Glu Gln Glu Glu Pro Ile Pro
 690 695 700
 Cys Pro Ala Ile Gly Cys Asn Gly Lys Ile Phe Lys Lys Arg Ser Arg
 705 710 715 720
 Tyr Asn Lys Ile Phe Tyr Ser Cys Ser Glu Tyr Pro Glu Cys Ser Val
 725 730 735
 Ile Gly Asn Ser Ile Asp Ala Val Ile Thr Lys Tyr Ser Gly Thr Glu
 740 745 750
 Lys Ile Pro Tyr Lys Lys Lys Thr Pro Thr Lys Lys Lys Ser Ser Ala
 755 760 765
 Lys Thr Thr Lys Ala Ala Lys Thr Pro Ser Lys Lys Gly Lys Ala Lys
 770 775 780
 Ser Ser Val Lys Lys Ser Ser Glu Lys Lys Thr Gly Pro Leu Phe Leu
 785 790 795 800
 Pro Ser Pro Asp Leu Ala Lys Met Ile Gly Asn Glu Pro Val Ser Arg
 805 810 815
 Gly Glu Ala Thr Lys Lys Ile Trp Asp Tyr Ile Lys Glu His Gln Leu
 820 825 830
 Gln Ala Pro Glu Asn Lys Lys Leu Leu Val Pro Asp Asn Asn Leu Ala
 835 840 845
 Thr Ile Ile Gly Pro Asn Pro Ile Asp Met Phe Gln Leu Ser Lys His
 850 855 860
 Leu Ser Gln His Leu Thr Lys Val Ser Asn Asp Glu Ser Ser Ala Ser
 865 870 875 880
 Ser

<210> 772
 <211> 270
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0770

<400> 772
 Lys Pro Arg Thr Arg Asn Val Glu Lys Leu Glu Phe Val Thr Ser Leu
 1 5 10 15
 Ser Ser Pro Asp Asp Asp Leu Ile Thr Phe Asn Lys Gln Gly Leu Ile
 20 25 30
 Ala Gly Pro Glu Glu Glu Lys Val Ala Phe Leu Val Arg Ser Asn Ala
 35 40 45
 Met Leu Asp Ala Gly Pro Glu Thr Pro Ala Ser Phe Pro Glu Ser Leu
 50 55 60
 Arg Glu Gln Phe Asp Ile Phe Pro Glu Tyr Val Glu Val Leu Tyr Ser
 65 70 75 80
 Asn Glu Gly Leu Asp Val Trp Glu Ala Gly Cys Thr Trp Ile Leu Asn
 85 90 95
 Asn Glu Val Thr Ile Gln Leu Arg Lys His His Arg Lys Ala Ser Arg
 100 105 110
 Trp Leu Gly Met Tyr Ser Arg Asp Glu Val Leu Ala His Glu Ala Val
 115 120 125
 His Ala Val Arg Met Lys Phe His Glu Pro Val Phe Glu Glu Val Leu
 130 135 140
 Ala Tyr Gln Thr Ser Arg Trp Gly Trp Arg Arg Phe Phe Gly Pro Leu
 145 150 155 160
 Phe Arg Ser Pro Gly Glu Ser Tyr Leu Leu Leu Phe Phe Thr Ile Leu
 165 170 175
 Gly Leu Gly Ile Ser Leu Trp Tyr Pro Ala Gly Ile Leu Ile Met Leu
 180 185 190

Val Leu Pro Met Tyr Phe Leu Met Arg Leu Cys Met Ala Gln Ser Tyr
195 200 205
Leu Tyr Arg Ala Met Lys Lys Ile Arg Lys Met Leu Gly Val Pro Pro
210 215 220
Leu Trp Val Leu Leu Arg Leu Thr Asp Lys Glu Ile Lys Met Phe Ala
225 230 235 240
Lys Glu Pro Ile Pro Val Leu Glu His Tyr Ala Arg Lys Arg Lys Leu
245 250 255
Glu Asn Val Arg Trp Lys Gln Ile Tyr Gln Ser Tyr Phe Val
260 265 270

<210> 773
<211> 456
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0771

<400> 773
Ile Phe Lys Gly Asn Ser Lys Arg Leu Tyr Asp Ser Ser Ala Leu Asp
1 5 10 15
Met Phe Gln Gln Lys Gln Lys Leu Ser Leu Lys Tyr Leu Pro Ser Leu
20 25 30
Arg Met Gln Gln Gly Leu Gln Met Leu Gln Ser Pro Leu Thr Glu Leu
35 40 45
Ser Ser Tyr Val Val Gln Glu Ile Ile Asp Asn Pro Phe Phe Asp Leu
50 55 60
Ser Ser Leu Glu Glu Glu Glu Trp Ser Pro Cys Tyr Arg Pro Thr Asn
65 70 75 80
Ser Thr Phe Ser Tyr Leu Asn Gln Thr Pro Gly Pro Gln Glu Ser Leu
85 90 95
Tyr Thr Arg Leu Leu Pro Gln Ile Glu Glu Ala Phe Ser Thr Ala Glu
100 105 110
Glu Arg Phe Ile Ala His Gln Ile Ala Gly Asn Leu Ser Asp Glu Gly
115 120 125
Leu Phe Leu Arg Asn Pro Glu Asp Phe Ala Gln Glu Leu Glu Leu Pro
130 135 140
Leu Glu Lys Ile His Lys Val Trp Asp Thr Ile Gln Asn Leu Ser Pro
145 150 155 160
Glu Gly Ile Ala Ser Pro Ser Leu Gln Ser Tyr Trp Met Lys Leu Leu
165 170 175
Arg Asn Ser Ser His Gln Gln Ala Tyr Ser Ile Val Arg Asp Cys Tyr
180 185 190
Pro Leu Met Thr Asn Cys Glu Phe Ala Pro Ile Met Lys Lys Phe Ser
195 200 205
Leu Ser Leu Ser Glu Leu Arg Asn Ile Leu Lys Lys Ala Leu Gly Ser
210 215 220
Ile Pro Trp Cys Pro Ala Ala Cys Thr Val Lys Pro Met Val Ser
225 230 235 240
Thr Pro Leu Pro Asp Ile Tyr Leu Phe Tyr Ser Ser Gly Ser Trp Lys
245 250 255
Ile Glu Val Ser Thr Arg Gly Leu Pro Ser Ile Lys Leu Asn Lys Glu
260 265 270
Thr Phe His Phe Tyr Glu His Leu Pro Lys Glu Glu Gln Lys Asn Leu
275 280 285
Ser Gln Gln Ile Leu Ser Ala Lys Trp Leu Ile Lys Asn Leu Arg Lys
290 295 300
Arg Glu Gln Thr Leu Leu Gln Val Met Glu Thr Leu Leu Pro Lys Gln
305 310 315 320

Gly Ala Asn Ile His Asn Ile Leu Asn Phe Glu Asn Asp Tyr Pro Asn
 260 265 270
 Ala Lys Val Leu Cys Leu Glu Glu Asn Tyr Arg Ser Tyr Gly Asn Ile
 275 280 285
 Leu Asn Ala Ala Asn Ala Leu Ile Lys Asn Asn Ala Ser Arg Leu Glu
 290 295 300
 Lys Glu Leu Arg Ser Val Lys Gly Pro Gly Glu Lys Ile Arg Leu Phe
 305 310 315 320
 Leu Gly Ser Thr Asp Arg Glu Glu Ala Asp Phe Val Ala Ala Glu Ile
 325 330 335
 Leu Gln Leu His Arg Val Gly Asn Ile Lys Leu Arg Asp Ile Cys Ile
 340 345 350
 Phe Tyr Arg Thr Asn Ser Gln Ser Arg Thr Phe Glu Asp Ala Leu Leu
 355 360 365
 Arg Arg Arg Ile Pro Tyr Glu Ile Ile Gly Gly Leu Ser Phe Tyr Lys
 370 375 380
 Arg Lys Glu Ile Gln Asp Ile Leu Ala Phe Leu Arg Ile Phe Ile Ser
 385 390 395 400
 Lys Ser Asp Ile Val Ala Phe Asp Arg Thr Val Asn Leu Pro Lys Arg
 405 410 415
 Gly Ile Gly Ser Thr Thr Ile Phe Ala Leu Thr Gln Tyr Ala Ile Ala
 420 425 430
 Gln Gly Leu Pro Ile Leu Lys Ala Cys Gln Gln Ala Leu Asp Thr Lys
 435 440 445
 Asp Val Lys Leu Ser Lys Lys Gln Gln Glu Gly Leu Gln Glu Tyr Leu
 450 455 460
 Ala Leu Phe Pro Gln Ile Glu His Ala Tyr Asn Thr Leu Ser Leu Arg
 465 470 475 480
 Asp Phe Ile Glu Ser Val Val Arg Ile Thr Gly Tyr Leu Glu Ile Leu
 485 490 495
 Lys Glu Asp Ala Asp Thr Phe Lys Asp Arg Lys Ser Asn Leu Glu Glu
 500 505 510
 Leu Tyr His Lys Ala Leu Glu Ser Glu Gln Gln Asn Pro Lys Thr His
 515 520 525
 Leu Glu Leu Phe Leu Asp Asp Leu Ala Leu Lys Gly Ser Asp Asp Asp
 530 535 540
 Leu Asn Leu Thr Ala Asp Arg Val Asn Leu Met Thr Leu His Asn Gly
 545 550 555 560
 Lys Gly Leu Glu Phe Arg Val Ser Phe Leu Val Gly Leu Glu Glu Gln
 565 570 575
 Leu Leu Pro His Ala Asn Ser Leu Gly Gly Thr Tyr Glu Asn Ile Glu
 580 585 590
 Glu Glu Arg Arg Leu Cys Tyr Val Gly Ile Thr Arg Ala Gln Asp Leu
 595 600 605
 Leu Tyr Leu Thr Ala Ala Gln Val Arg Ser Leu Trp Gly Thr Val Arg
 610 615 620
 Met Met Lys Pro Ser Arg Phe Leu Lys Glu Ile Pro Lys Asp Tyr Met
 625 630 635 640
 Ile Gln Val Arg

<210> 775
 <211> 237
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0773

<400> 775

Phe	Met	Gln	Asn	Ala	Thr	Ile	Asp	Gln	Leu	Pro	Val	Ser	Trp	Gln	Glu
1				5					10					15	
Gln	Leu	Pro	Leu	Cys	Trp	Arg	Glu	Gln	Leu	Lys	Glu	Glu	Trp	Ser	Lys
		20					25						30		
Pro	Tyr	Met	Gln	Gln	Leu	Leu	Ile	Phe	Leu	Lys	Gln	Glu	Tyr	Lys	Glu
	35					40					45				
His	Thr	Val	Tyr	Pro	Glu	Glu	Asn	Cys	Val	Phe	Ser	Ala	Leu	Arg	Ser
	50					55					60				
Thr	Pro	Phe	Asp	Gln	Val	Arg	Val	Val	Ile	Leu	Gly	Gln	Asp	Pro	Tyr
65					70					75				80	
Pro	Gly	Lys	Gly	Gln	Ala	His	Gly	Leu	Ser	Phe	Ser	Val	Pro	Glu	Gly
			85						90					95	
Gln	Arg	Leu	Pro	Pro	Ser	Leu	Ile	Asn	Ile	Phe	Arg	Glu	Leu	Lys	Thr
			100					105					110		
Asp	Leu	Gly	Ile	Glu	Asn	His	Lys	Gly	Cys	Leu	Gln	Ser	Trp	Ala	Asn
	115						120					125			
Gln	Gly	Ile	Leu	Leu	Leu	Asn	Thr	Val	Leu	Thr	Val	Arg	Ala	Gly	Glu
	130					135					140				
Pro	Phe	Ser	His	Ala	Gly	Lys	Gly	Trp	Glu	Leu	Phe	Thr	Asp	Ala	Ile
145					150					155					160
Val	Thr	Lys	Leu	Ile	Gln	Glu	Arg	Thr	His	Ile	Ile	Phe	Val	Leu	Trp
			165						170					175	
Gly	Ala	Ala	Ala	Arg	Lys	Lys	Cys	Glu	Leu	Leu	Phe	Asn	Ser	Lys	His
			180				185						190		
Gln	His	Ala	Val	Leu	Ser	Ser	Pro	His	Pro	Ser	Pro	Leu	Ala	Ala	His
	195						200					205			
Arg	Gly	Phe	Phe	Gly	Cys	Ser	His	Phe	Ser	Lys	Ile	Asn	Tyr	Leu	Leu
	210					215					220				
Asn	Lys	Leu	Asn	Lys	Pro	Met	Ile	Asn	Trp	Lys	Leu	Pro			
225					230					235					

<210> 776
 <211> 81
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0774

<400> 776

Leu	Glu	Ala	Pro	Met	Asn	Glu	Gly	Ile	His	Ser	Val	Cys	Phe	Gln	Lys
1				5				10						15	
Thr	Pro	Arg	Leu	Thr	Ala	Lys	Ser	Val	Val	Ser	Met	Glu	Met	Leu	Leu
		20					25					30			
Thr	Thr	Gln	Gln	Leu	Pro	Ser	Ala	Glu	Gly	Met	Pro	Ser	Val	Ala	Asn
	35					40					45				
Leu	Glu	Ala	Asp	Phe	Leu	Arg	Ala	Glu	Ala	Leu	Leu	Ala	Glu	Met	Arg
	50					55					60				
Glu	Ile	Arg	Gly	Cys	Leu	Glu	Gln	Ser	Leu	Arg	Thr	Leu	Val	Pro	Ser
65					70					75				80	
Glu															

<210> 777
 <211> 209
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0775

<400> 777

Glu	Arg	Phe	Met	Lys	Ile	Val	Ile	Ala	Ser	Ser	His	Gly	Tyr	Lys	Ile
1				5					10					15	
Arg	Glu	Thr	Lys	Thr	Phe	Leu	Lys	Arg	Leu	Gly	Asp	Phe	Asp	Ile	Phe
			20					25					30		
Ser	Leu	Ser	Asp	Phe	Pro	Asp	Tyr	Lys	Leu	Pro	Gln	Glu	Gln	Gly	Asp
		35					40				45				
Ser	Ile	Thr	Ala	Asn	Ala	Leu	Thr	Lys	Gly	Ile	His	Ala	Ala	Asn	His
		50				55					60				
Leu	Gly	Cys	Trp	Val	Ile	Ala	Asp	Asp	Thr	Met	Leu	Arg	Val	Pro	Ala
65					70					75				80	
Leu	Asn	Gly	Leu	Pro	Gly	Pro	Leu	Ser	Ala	Asn	Phe	Ala	Gly	Val	Gly
				85					90				95		
Ala	Tyr	Asp	Lys	Asp	His	Arg	Lys	Lys	Leu	Leu	Asp	Leu	Met	Ser	Ser
			100					105					110		
Leu	Glu	Ser	Leu	Val	Asp	Arg	Ser	Ala	Tyr	Phe	Glu	Cys	Cys	Val	Val
		115					120					125			
Leu	Val	Ser	Pro	Asn	Gln	Glu	Ile	Phe	Lys	Thr	Tyr	Gly	Ile	Cys	Glu
		130				135					140				
Gly	Tyr	Ile	Ser	His	Gln	Glu	Lys	Gly	Ser	Ser	Gly	Phe	Gly	Tyr	Asp
145					150					155				160	
Pro	Ile	Phe	Val	Lys	Tyr	Asp	Tyr	Lys	Gln	Thr	Phe	Ala	Glu	Leu	Ser
				165					170					175	
Glu	Asp	Val	Lys	Asn	Gln	Val	Ser	His	Arg	Ala	Lys	Ala	Leu	Gln	Lys
			180					185					190		
Leu	Ala	Pro	His	Leu	Gln	Ser	Leu	Phe	Glu	Lys	His	Leu	Leu	Thr	Arg
		195					200					205			

Asp

<210> 778
 <211> 436
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0776

<400> 778

Phe	Ile	Phe	Val	Leu	Lys	Asn	Phe	Tyr	Asp	Cys	Leu	Leu	Met	Phe	Phe
1				5					10					15	
Gln	Phe	Leu	Ser	Phe	Thr	Met	Lys	Lys	Ile	Phe	Tyr	Ser	Phe	Val	Leu
			20					25					30		
Leu	Ser	Cys	Ile	Phe	Pro	Tyr	Val	Gly	Cys	Ala	Gln	Val	Phe	Val	Gly
		35					40					45			
Leu	Asp	Arg	Ile	Phe	Ser	Glu	Gly	Glu	Tyr	Thr	Arg	Cys	Ile	Gln	Gly
		50				55					60				
Lys	Lys	Ile	Ala	Leu	Ile	Ser	His	Ser	Ala	Ala	Ile	Asn	Ser	Arg	Gly
65					70					75				80	
Gln	Asp	Ala	Leu	Ser	Val	Phe	Tyr	Ser	Arg	Lys	His	Asp	Cys	Thr	Val
			85					90					95		
Glu	Ile	Leu	Cys	Thr	Leu	Glu	His	Gly	Tyr	Tyr	Gly	Ala	Thr	Pro	Thr
			100					105					110		
Glu	Thr	Val	Gly	Asn	Gln	Pro	Ser	Arg	Tyr	Pro	Asn	Leu	Arg	Ser	Val
		115					120					125			
Ser	Leu	Tyr	Gly	Val	Lys	Glu	Val	Pro	Lys	Glu	Val	Ala	Glu	His	Cys
		130				135					140				
Asp	Val	Phe	Val	Tyr	Asp	Val	Gln	Asp	Ile	Gly	Val	Arg	Ser	Tyr	Ser
145					150					155				160	
Phe	Val	Thr	Val	Leu	Met	Gln	Ile	Val	Lys	Ala	Ser	Glu	Arg	Tyr	Gly
				165					170					175	

Lys Gln Leu Ile Val Leu Asp Arg Pro Asn Pro Met Gly Gly Arg Ile
 180 185 190
 Val Asp Gly Pro Leu Pro Asn Pro Thr Thr Ser Gly Ser Leu Ala Ile
 195 200 205
 Pro Tyr Cys Tyr Gly Met Thr Pro Gly Glu Leu Ala Leu Phe Phe Lys
 210 215 220
 Lys Thr Tyr Ala Pro Asn Ala Asn Val Val Val Ile Pro Met Lys Gly
 225 230 235 240
 Trp Asn Arg Ser Met Thr Phe Asp Glu Thr Gly Leu Ile Trp Met Pro
 245 250 255
 Thr Ser Pro Gln Met Pro Asp Pro Gln Ser Pro Phe Phe Tyr Ala Ala
 260 265 270
 Thr Gly Ile Leu Gly Ala Leu Ser Val Ala Ser Ile Gly Val Gly Tyr
 275 280 285
 Thr Leu Pro Phe Lys Val Leu Gly Ala Pro Trp Met Asp Gly Glu Lys
 290 295 300
 Val Ala Asp Glu Leu Asn Arg Met Lys Leu Pro Gly Val Leu Phe Leu
 305 310 315 320
 Pro Phe Phe Tyr Glu Pro Phe Phe Gly Lys Tyr Lys Met Glu Met Cys
 325 330 335
 Ser Gly Val Leu Leu Val Leu Gln Asp Pro Lys Ile Phe Tyr Pro Val
 340 345 350
 Glu Thr Gln Cys Thr Ile Trp Gly Val Leu Lys Ala Leu Tyr Pro Lys
 355 360 365
 Gln Val Glu Gln Thr Leu Lys Ser Ile Glu Arg Ile Pro Ala Arg Arg
 370 375 380
 Ser Ser Ile Cys Asn Leu Phe Gly Gly Asp Glu Phe Leu Ser Ile Ser
 385 390 395 400
 His Lys Glu Arg Tyr Ile Val Trp Pro Leu Arg Arg Leu Cys Lys Glu
 405 410 415
 Ser Arg Glu Ser Phe His Gln Leu Arg Ser Ser Cys Leu Leu Ser Glu
 420 425 430
 Tyr Ala Glu Ser
 435

<210> 779
 <211> 531
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0777

<400> 779
 Thr Ser Glu Asp Arg Val Val Trp Val Phe Lys Ser Gln Phe Glu Gly
 1 5 10 15
 Leu Ser Ala Leu Lys Arg Gly Val His Ala Leu Thr Lys Ala Val Thr
 20 25 30
 Pro Ala Phe Gly Pro Arg Gly Tyr Asn Val Val Ile Lys Lys Gly Lys
 35 40 45
 Ala Pro Ile Val Leu Thr Lys Asn Gly Ile Arg Ile Ala Lys Glu Ile
 50 55 60
 Ile Leu Gln Asp Ala Phe Glu Ser Leu Gly Val Lys Leu Ala Lys Glu
 65 70 75 80
 Ala Leu Leu Lys Val Val Glu Gln Thr Gly Asp Gly Ser Thr Thr Ala
 85 90 95
 Leu Val Val Ile Asp Ala Leu Phe Thr Gln Gly Leu Lys Gly Ile Ala
 100 105 110
 Ala Gly Leu Asp Pro Gln Glu Ile Lys Ala Gly Ile Leu Leu Ser Val
 115 120 125

Glu Met Val Tyr Gln Gln Leu Gln Arg Gln Ala Ile Glu Leu Gln Ser
 130 135 140
 Pro Lys Asp Val Leu His Val Ala Met Val Ala Ala Asn His Asp Val
 145 150 155 160
 Thr Leu Gly Thr Val Val Ala Thr Val Ile Ser Gln Ala Asp Leu Lys
 165 170 175
 Gly Val Phe Ser Ser Lys Asp Ser Gly Ile Ser Lys Thr Arg Gly Leu
 180 185 190
 Gly Lys Arg Val Lys Ser Gly Tyr Leu Ser Pro Tyr Phe Val Thr Arg
 195 200 205
 Pro Glu Thr Met Asp Val Val Trp Glu Glu Ala Leu Val Leu Ile Leu
 210 215 220
 Ser His Ser Leu Val Ser Leu Ser Glu Glu Leu Ile Arg Tyr Leu Glu
 225 230 235 240
 Leu Ile Ser Glu Gln Asn Thr His Pro Leu Val Ile Ile Ala Glu Asp
 245 250 255
 Phe Asp Gln Asn Val Leu Arg Thr Leu Ile Leu Asn Lys Leu Arg Asn
 260 265 270
 Gly Leu Pro Val Cys Ala Val Lys Ala Pro Gly Ser Arg Glu Leu Arg
 275 280 285
 Gln Val Val Leu Glu Asp Leu Ala Ile Leu Thr Gly Ala Thr Leu Ile
 290 295 300
 Gly Gln Glu Ser Glu Asn Cys Glu Ile Pro Val Ser Leu Asp Val Leu
 305 310 315 320
 Gly Arg Val Lys Gln Val Met Ile Thr Lys Glu Thr Phe Thr Phe Leu
 325 330 335
 Glu Gly Gly Gly Asp Ala Glu Ile Ile Gln Ala Arg Lys Gln Glu Leu
 340 345 350
 Cys Leu Ala Ile Ala Arg Ser Thr Ser Glu Ser Glu Cys Gln Glu Leu
 355 360 365
 Glu Glu Arg Leu Ala Ile Phe Ile Gly Ser Ile Pro Gln Val Gln Ile
 370 375 380
 Thr Ala Asp Thr Asp Thr Glu Gln Arg Glu Arg Gln Phe Gln Leu Glu
 385 390 395 400
 Ser Ala Leu Arg Ala Thr Lys Ala Ala Met Lys Gly Gly Ile Val Pro
 405 410 415
 Gly Gly Gly Val Ala Phe Leu Arg Ala Ala His Ala Ile Glu Val Pro
 420 425 430
 Ala Asn Leu Ser Ser Gly Met Thr Phe Gly Phe Glu Thr Leu Leu Gln
 435 440 445
 Ala Val Arg Thr Pro Leu Lys Val Leu Ala Gln Asn Cys Gly Arg Ser
 450 455 460
 Ser Glu Glu Val Ile His Thr Ile Leu Ser His Glu Asn Pro Arg Phe
 465 470 475 480
 Gly Tyr Asn Gly Met Thr Asp Thr Phe Glu Asp Leu Val Asp Ala Gly
 485 490 495
 Ile Cys Asp Pro Leu Ile Val Thr Thr Ser Ser Leu Lys Cys Ala Val
 500 505 510
 Ser Val Ser Cys Leu Leu Leu Thr Ser Ser Phe Phe Ile Ser Ser Arg
 515 520 525
 Thr Lys Thr
 530

<210> 780
 <211> 231
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0778

<400> 780
Ala Pro Val Ala Gln Ser Asp Arg Val Pro Gly Tyr Glu Pro Gly Gly
1 5 10 15
Gln Arg Phe Glu Ser Ser Leu Val Arg Asn Asn Lys Arg Val Glu Glu
20 25 30
Glu Val Phe Met Thr Leu Ser Leu Val Gly Lys Glu Ala Pro Asp Phe
35 40 45
Val Ala Gln Ala Val Val Asn Gly Glu Thr Cys Thr Val Ser Leu Lys
50 55 60
Asp Tyr Leu Gly Lys Tyr Val Val Leu Phe Phe Tyr Pro Lys Asp Phe
65 70 75 80
Thr Tyr Val Cys Pro Thr Glu Leu His Ala Phe Gln Asp Ala Leu Gly
85 90 95
Glu Phe His Thr Arg Gly Ala Glu Val Ile Gly Cys Ser Val Asp Asp
100 105 110
Ile Ala Thr His Gln Gln Trp Leu Ala Thr Lys Lys Lys Gln Gly Gly
115 120 125
Ile Glu Gly Ile Thr Tyr Pro Leu Leu Ser Asp Glu Asp Lys Val Ile
130 135 140
Ser Arg Ser Tyr His Val Leu Lys Pro Glu Glu Glu Leu Ser Phe Arg
145 150 155 160
Gly Val Phe Leu Ile Asp Lys Gly Gly Ile Ile Arg His Leu Val Val
165 170 175
Asn Asp Leu Pro Leu Gly Arg Ser Ile Glu Glu Glu Leu Arg Thr Leu
180 185 190
Asp Ala Leu Ile Phe Phe Glu Thr Asn Gly Leu Val Cys Pro Ala Asn
195 200 205
Trp His Glu Gly Glu Arg Ala Met Ala Pro Asn Glu Glu Gly Leu Gln
210 215 220
Asn Tyr Phe Gly Thr Ile Asp
225 230

<210> 781
<211> 136
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0779

<400> 781
Arg Phe Asp Leu Ile Phe Gln Met Lys Phe Thr Val Ala Leu Phe Gly
1 5 10 15
Glu Ala Glu Lys Gly Ser Tyr Asp Thr Ala Tyr Phe Cys Arg Ser Leu
20 25 30
Val Asp Leu His Asn Tyr Leu Gly Asp Val Ser Ser Pro Gly Ile Thr
35 40 45
Leu Ala Ile Lys Thr Leu Leu Ser Asp Tyr Asn Val Val Tyr Phe Arg
50 55 60
Val Arg Glu Glu Gly Tyr Cys Val Asp Ser Tyr Phe Phe Gly Leu His
65 70 75 80
Phe Leu Asn Thr Gln Thr Thr Leu Lys Asn Ile Ile Ala Ile Gly Leu
85 90 95
Pro Gly Val Gly Asn Gln His Ile Ile Glu Ala Ser Arg Ser Leu Cys
100 105 110
Gln Lys His Asn Ser Leu Leu Leu Phe Phe Asp His Asp Leu Tyr Asp
115 120 125
Leu Leu Thr Phe Asn Gln Pro Phe
130 135

<210> 782
 <211> 217
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0780

<400> 782
 His Gly Asn Lys Ile Ala Val Gln Ser Leu Arg Phe Met His Ala Lys
 1 5 10 15
 Leu Ser Phe Phe Ile Leu Leu Ser Leu Leu Phe Ser Gly Ile Asp Cys
 20 25 30
 Ser Arg Leu His Ala Ala Gly Arg Ser Pro Ser Leu Gln Gly Val Leu
 35 40 45
 Ala Glu Ile Glu Asp Ile Ser Ala Lys Leu Ala Ser His Glu Val Glu
 50 55 60
 Ile Val Met Leu Ser Glu Arg Leu Asp Glu Gln Asp Ser Lys Cys Gln
 65 70 75 80
 Lys Trp Thr Ala Ala Lys Pro Glu Thr Leu Ala Gln Lys Ile Arg Glu
 85 90 95
 Leu Glu Ser Asp Gln Lys Ala Leu Ala Lys Thr Leu Ala Val Leu Thr
 100 105 110
 Thr Ser Val Lys Asp Leu Gln Thr Asn Leu Gln Ser Lys Leu Gln Glu
 115 120 125
 Ile Gln Lys Asp His Arg Ala Leu Ala Gln Asp Leu Arg Leu Val Arg
 130 135 140
 Arg Ser Leu Leu Ala Leu Val Asp Ser Ser Ser Pro Gly Ala Tyr Ala
 145 150 155 160
 Asp Phe Ser Asp Pro Val Pro Glu Asn Ile Tyr Ile Val Arg Glu Gly
 165 170 175
 Asp Ser Leu Ser Lys Ile Ala Lys Lys Tyr Lys Leu Ser Val Thr Glu
 180 185 190
 Leu Lys Lys Ile Asn Lys Leu Asp Ser Asp Ala Ile Tyr Ala Gly Gln
 195 200 205
 Arg Leu Cys Leu Gln Arg Asn Lys Gln
 210 215

<210> 783
 <211> 218
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0781

<400> 783
 Gln Asn Cys Tyr Arg Ser Arg Arg Lys Thr Val Pro Leu Leu Gly Cys
 1 5 10 15
 Phe Pro Ser Ala Thr Asp Lys Glu Asn Thr Met Asn Ile His Ser Leu
 20 25 30
 Trp Lys Leu Cys Thr Leu Leu Ala Leu Leu Ala Leu Pro Ala Cys Ser
 35 40 45
 Leu Ser Pro Asn Tyr Gly Trp Glu Asp Ser Cys Asn Thr Cys His His
 50 55 60
 Thr Arg Arg Lys Lys Pro Ser Ser Phe Gly Phe Val Pro Leu Tyr Thr
 65 70 75 80
 Glu Glu Asp Phe Asn Pro Asn Phe Thr Phe Gly Glu Tyr Asp Ser Lys
 85 90 95
 Glu Glu Lys Gln Tyr Lys Ser Ser Gln Val Ala Ala Phe Arg Asn Ile
 100 105 110

Thr Phe Ala Thr Asp Ser Tyr Thr Ile Lys Gly Glu Glu Asn Leu Ala
 115 120 125
 Ile Leu Thr Asn Leu Val His Tyr Met Lys Lys Asn Pro Lys Ala Thr
 130 135 140
 Leu Tyr Ile Glu Gly His Thr Asp Glu Arg Gly Ala Ala Ser Tyr Asn
 145 150 155 160
 Leu Ala Leu Gly Ala Arg Arg Ala Asn Ala Ile Lys Glu His Leu Arg
 165 170 175
 Lys Gln Gly Ile Ser Ala Asp Arg Leu Ser Thr Ile Ser Tyr Gly Lys
 180 185 190
 Glu His Pro Leu Asn Ser Gly His Asn Glu Leu Ala Trp Gln Gln Asn
 195 200 205
 Arg Arg Thr Glu Phe Lys Ile His Ala Arg
 210 215

<210> 784
 <211> 435
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0782

 <400> 784
 Gly Asp Ile Gly Met Leu Arg Gln Leu Cys Phe Gln Val Phe Phe Phe
 1 5 10 15
 Cys Phe Ala Ser Leu Val Tyr Ala Glu Leu Glu Val Val Val Arg
 20 25 30
 Ser Glu His Ile Thr Leu Pro Ile Glu Val Ser Cys Gln Thr Asp Thr
 35 40 45
 Lys Asp Pro Lys Ile Gln Lys Tyr Leu Ser Ser Leu Thr Glu Ile Phe
 50 55 60
 Cys Lys Asp Ile Ala Leu Gly Asp Cys Leu Gln Pro Thr Ala Ala Ser
 65 70 75 80
 Lys Glu Ser Ser Ser Pro Leu Ala Ile Ser Leu Arg Leu His Val Pro
 85 90 95
 Gln Leu Ser Val Val Leu Leu Gln Ser Ser Lys Thr Pro Gln Thr Leu
 100 105 110
 Cys Ser Phe Thr Ile Ser Gln Asn Leu Ser Val Asp Arg Gln Lys Ile
 115 120 125
 His His Ala Ala Asp Thr Val His Tyr Ala Leu Thr Gly Ile Pro Gly
 130 135 140
 Ile Ser Ala Gly Lys Ile Val Phe Ala Leu Ser Ser Leu Gly Lys Asp
 145 150 155 160
 Gln Lys Leu Lys Gln Gly Glu Leu Trp Thr Thr Asp Tyr Asp Gly Lys
 165 170 175
 Asn Leu Ala Pro Leu Thr Thr Glu Cys Ser Leu Ser Ile Thr Pro Lys
 180 185 190
 Trp Val Gly Val Gly Ser Asn Phe Pro Tyr Leu Tyr Val Ser Tyr Lys
 195 200 205
 Tyr Gly Val Pro Lys Ile Phe Leu Gly Ser Leu Glu Asn Thr Glu Gly
 210 215 220
 Lys Lys Val Leu Pro Leu Lys Gly Asn Gln Leu Met Pro Thr Phe Ser
 225 230 235 240
 Pro Arg Lys Lys Leu Leu Ala Phe Val Ala Asp Thr Tyr Gly Asn Pro
 245 250 255
 Asp Leu Phe Ile Gln Pro Phe Ser Leu Thr Ser Gly Pro Met Gly Arg
 260 265 270
 Pro Arg Arg Leu Leu Asn Glu Asn Phe Gly Thr Gln Gly Asn Pro Ser
 275 280 285

Phe Asn Pro Glu Gly Ser Gln Leu Val Phe Ile Ser Asn Lys Asp Gly
 290 295 300
 Arg Pro Arg Leu Tyr Ile Met Ser Leu Asp Pro Glu Pro Gln Ala Pro
 305 310 315 320
 Arg Leu Leu Thr Lys Lys Tyr Arg Asn Ser Ser Cys Pro Ala Trp Ser
 325 330 335
 Pro Asp Gly Lys Lys Ile Ala Phe Cys Ser Val Ile Lys Gly Val Arg
 340 345 350
 Gln Ile Cys Ile Tyr Asp Leu Ser Ser Gly Glu Asp Tyr Gln Leu Thr
 355 360 365
 Thr Ser Pro Thr Asn Lys Glu Ser Pro Ser Trp Ala Ile Asp Ser Arg
 370 375 380
 His Leu Val Phe Ser Ala Gly Asn Ala Glu Glu Ser Glu Leu Tyr Leu
 385 390 395 400
 Ile Ser Leu Val Thr Lys Lys Thr Asn Lys Ile Ala Ile Gly Val Gly
 405 410 415
 Glu Lys Arg Phe Pro Ser Trp Gly Ala Phe Pro Gln Gln Pro Ile Lys
 420 425 430
 Arg Thr Leu
 435

<210> 785
 <211> 263
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0783

<400> 785
 Ile Met Met Lys Tyr Leu Pro Tyr Ile Ala Ile Thr Ala Cys Ile His
 1 5 10 15
 Gly Gly Ile Leu Leu Leu Val Phe Ala Ser Pro Leu Pro Lys Lys Arg
 20 25 30
 Leu Gln Pro Lys Ala Phe Gln Glu Lys Leu Val Thr Ile Gln Pro Lys
 35 40 45
 Pro Pro Val Pro Thr Pro Ser Val Val Val Asp Pro Ala Lys Thr Ile
 50 55 60
 Arg Pro Ser Val Ala Thr Gln Pro Gln Lys Gln Ala Lys Cys Ser Pro
 65 70 75 80
 Pro Gln Glu Asn Val Gln Lys Ala Leu Gln Lys Pro Ile Pro Lys Val
 85 90 95
 Ile Lys Thr Glu Pro Pro Lys Pro Ser Pro Ala Pro Thr Val Ala Lys
 100 105 110
 Lys Thr Thr Ala Thr Glu Lys Pro Pro Pro Ser Thr Thr Lys Lys Asn
 115 120 125
 Thr Gln Leu Ser Lys Thr Gln Leu Gln Thr Leu Ser Glu Val Ala Gln
 130 135 140
 Ala Leu Ser Leu His Val Asp Lys Ile Glu Lys Ser Glu Thr Ser Leu
 145 150 155 160
 Lys Asn Ile Ser Trp Pro Ser Thr Ala Gln Leu Thr Met His Ser Glu
 165 170 175
 Leu Lys Ala Thr Gln Glu Asp Glu Leu Cys Glu Leu Phe Arg Thr His
 180 185 190
 Ile Ala Leu Pro Ser Lys Gly Tyr Val Arg Ile Lys Leu Val Leu Ser
 195 200 205
 Pro Asn Gly Glu Ile Gln Glu Cys Ser Phe Leu Ser Glu Val Ser Ala
 210 215 220
 Ala Asp Lys Gln Leu Leu Thr Gln Arg Ile Gln Ala Leu Pro Phe Gln
 225 230 235 240

Lys Phe Leu Glu Lys Tyr Lys Val Ser Lys Asn Ile Ser Phe His Ile
245 250 255
Lys Leu Val Ser Asn Glu Ser
260

<210> 786
<211> 156
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0784

<400> 786
Asp Arg Ala Asp Ser Ile Phe Thr Thr Glu Phe Tyr Arg Ser Gln Ile
1 5 10 15
Pro Gln Tyr Lys Leu Met Lys Tyr Arg Phe Thr Glu Glu Ile Glu Glu
20 25 30
Glu Pro Leu Val Asn Leu Thr Pro Leu Ile Asp Ile Val Phe Val Ile
35 40 45
Leu Met Ala Phe Ile Val Ala Val Pro Leu Ile Lys Leu Asp Ser Ile
50 55 60
Ala Leu Ala Pro Gly Thr Gln Glu Gln Glu Val Leu Ser Ser Glu Asn
65 70 75 80
Asp Ser Ile Ala Val Ile Lys Val Phe Ala Asp His Ser Leu Thr Leu
85 90 95
Asn Glu His Pro Ile Thr Leu Gln Glu Leu Thr Val Arg Leu Thr Leu
100 105 110
Leu His Lys Ala Tyr Pro Glu Lys Thr Pro Leu Leu Leu Gln Asp Gly
115 120 125
Glu Thr Ser Phe Arg Thr Tyr Gln Asn Val Lys Asn Ala Ile Glu Ala
130 135 140
Ala Gly Phe His Glu Leu His Val Ala Leu Gln Asn
145 150 155

<210> 787
<211> 248
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0785

<400> 787
Asp His Leu Tyr Phe Glu Thr Leu Ser Val Asn Lys Asp Phe Tyr Ser
1 5 10 15
Met Val His Phe Ser His Asn Pro Ile Ile Gln Ala Tyr Thr Glu Ala
20 25 30
Asp Phe Phe Gly Lys Ser Ile Phe Phe Cys Leu Leu Ile Leu Ser Val
35 40 45
Cys Thr Trp Thr Val Leu His Gln Lys Leu Ala Ile Gln Lys Asn Phe
50 55 60
Leu Lys Ala Gly Lys Ser Leu Lys Asp Phe Leu Ile Lys Asn Arg His
65 70 75 80
Ala Pro Leu Ser Leu Asp Ile His Pro Glu Leu Ser Pro Phe Ala Asp
85 90 95
Leu Tyr Phe Thr Ile Lys Arg Gly Thr Leu Glu Leu Leu Asp Lys Asn
100 105 110
Arg Gln Ser Ala Pro Asp Arg Gly Pro Ile Leu Ser Ser Glu Asp Ile
115 120 125

Gln Ser Leu Glu Thr Leu Leu Gly Ala Ile Met Pro Lys Tyr Lys Ala
 130 135 140
 Leu Leu His Lys Asn Ser Phe Ile Pro Ala Thr Thr Ile Ser Leu Ala
 145 150 155 160
 Pro Phe Leu Gly Leu Leu Gly Thr Val Trp Gly Ile Leu Val Ala Phe
 165 170 175
 Thr His Ile Ser Ser Gly Ser Ser Gly Asn Ser Ala Ile Met Glu Gly
 180 185 190
 Leu Ala Thr Ala Leu Gly Thr Thr Ile Ile Gly Leu Phe Val Ala Ile
 195 200 205
 Pro Ser Leu Ile Ala Phe Asn Tyr Leu Lys Ala His Ser Ser Glu Leu
 210 215 220
 Ile Ser Glu Ile Glu Gln Thr Ala Tyr Leu Leu Leu Asn Ser Ile Glu
 225 230 235 240
 Val Lys Tyr Arg Asn Thr Asn Leu
 245

<210> 788
 <211> 719
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0786

<400> 788
 Asn His Gly Val Ile Leu Asn Lys Phe Lys Thr Tyr Leu Gln Thr Ala
 1 5 10 15
 Leu Ile Ala Pro Phe Phe Ser Phe Pro Ala Leu Ser Gly Ser Phe Ser
 20 25 30
 Ser Ile Gln Ala Glu Glu Ile Thr Gln Gln Val Asn His Pro Gly Ala
 35 40 45
 Glu Leu Leu Ser Glu Gly Ser Tyr Ile Pro Gly Leu Gln Thr Phe Arg
 50 55 60
 Leu Gly Ile Lys Ile Thr Ala Ser Lys Gly Ser His Ile Tyr Trp Lys
 65 70 75 80
 Asn Pro Gly Glu Ile Gly Ser Pro Leu Lys Ile Ser Trp Gln Leu Pro
 85 90 95
 Lys Gly Phe Val Val Glu Glu Glu His Trp Pro Thr Pro Lys Val Phe
 100 105 110
 Glu Glu Glu Gly Thr Thr Phe Phe Gly Tyr Glu Asp Ser Ala Leu Ile
 115 120 125
 Val Ala Asp Val Arg Ala Pro Glu Gly Tyr Thr Pro Gly Gln Glu Val
 130 135 140
 Glu Leu Arg Ala Gln Val Glu Trp Leu Ala Cys Gly Asp Ser Cys Leu
 145 150 155 160
 Pro Gly Asn Val Asp Leu Lys Leu Thr Leu Pro Tyr Glu Glu Lys Glu
 165 170 175
 Pro Ser Leu Tyr Pro Asp Thr His Ala Glu Phe Thr Lys Thr Leu His
 180 185 190
 Ala Gln Pro Arg Val Leu Glu Asn Asp His Ser Val Gln Val Ala Gln
 195 200 205
 Gly Lys Gly Asn Glu Ile Ile Leu Asn Ile Ser Lys Lys Ile Asn Ala
 210 215 220
 Thr Lys Ala Trp Phe Val Ser Glu Lys Ala Asp Lys Leu Phe Ala Tyr
 225 230 235 240
 Ala Glu Thr Ser Tyr Ser Gly Gly Thr Gly Thr Ala Trp Arg Leu Lys
 245 250 255
 Val Lys Asn Leu Ser Gly Val Gln Lys Asn Glu Lys Leu His Gly Ile
 260 265 270

Leu Leu Leu Ala Asp His Thr Gly Arg Pro Val Glu Ser Leu Thr Ile
 275 280 285
 His Ser Glu Val Leu Gly Gln Thr Gly Ser Ala Val Ala Gly Leu Ser
 290 295 300
 Gln Tyr Ile Thr Ile Leu Ile Met Ala Phe Leu Gly Gly Val Leu Leu
 305 310 315 320
 Asn Ile Met Pro Cys Val Leu Pro Leu Val Thr Leu Lys Val Tyr Gly
 325 330 335
 Leu Ile Lys Ser Ala Gly Glu His Arg Ser Ser Val Ile Ala Asn Gly
 340 345 350
 Leu Trp Phe Thr Leu Gly Val Val Gly Cys Phe Trp Gly Leu Ala Gly
 355 360 365
 Val Ala Phe Ile Leu Lys Val Leu Gly His Asn Ile Gly Trp Gly Phe
 370 375 380
 Gln Leu Gln Glu Pro Met Phe Val Ala Thr Leu Ile Ile Val Phe Phe
 385 390 395 400
 Leu Phe Ala Leu Ser Ser Leu Gly Leu Phe Glu Met Gly Thr Met Phe
 405 410 415
 Ala Asn Leu Gly Gly Lys Leu Gln Ser Ser Glu Met Lys Ser Ser Asn
 420 425 430
 Asn Lys Ala Val Gly Ala Phe Phe Asn Gly Ile Leu Ala Thr Leu Val
 435 440 445
 Thr Thr Pro Cys Thr Gly Pro Phe Leu Gly Ser Val Leu Gly Leu Val
 450 455 460
 Met Ser Leu Ser Phe Leu Gln Gln Leu Leu Ile Phe Thr Ala Ile Gly
 465 470 475 480
 Leu Gly Met Ala Ser Pro Tyr Leu Val Phe Ser Val Phe Pro Lys Met
 485 490 495
 Leu Ser Val Leu Pro Lys Pro Gly Gly Trp Met Ser Thr Phe Lys Gln
 500 505 510
 Leu Thr Gly Phe Met Leu Leu Val Thr Val Thr Trp Leu Val Trp Ile
 515 520 525
 Phe Gly Ser Glu Thr Ser Thr Thr Ser Val Val Val Leu Leu Gly Gly
 530 535 540
 Leu Trp Leu Ala Gly Leu Gly Ala Trp Ile Leu Gly Arg Trp Gly Thr
 545 550 555 560
 Pro Val Ser Pro Lys Lys Gln Arg Val Cys Ala Ser Leu Leu Phe Phe
 565 570 575
 Ala Phe Leu Gly Gly Ala Ile Ser Val Ser Gly Leu Ala Ser His Tyr
 580 585 590
 Phe Ala Glu Pro Gln Gln Thr Val Ser Val Asn Glu Asp Ser Leu Trp
 595 600 605
 Gln Pro Phe Ser Leu Glu Lys Leu Ala Gln Leu Arg Ala Gln Gly Arg
 610 615 620
 Pro Val Phe Val Asn Phe Thr Ala Lys Trp Cys Leu Thr Cys Gln Met
 625 630 635 640
 Asn Lys Pro Val Leu Tyr Gly Asp Ala Val Gln Lys Met Phe Glu Thr
 645 650 655
 His Gly Ile Val Thr Leu Glu Ala Asp Trp Thr Arg Lys Asp Pro Gly
 660 665 670
 Ile Thr Glu Leu Ala Arg Leu Gly Arg Ala Ser Val Pro Ser Tyr
 675 680 685
 Val Tyr Tyr Pro Gly Asp Asn Ser Ala Pro Val Val Leu Pro Glu Lys
 690 695 700
 Ile Thr Gln Asn Leu Leu Glu Asp Val Val Ser Arg Phe Val Arg
 705 710 715

<210> 789
 <211> 266
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0787

<400> 789

Thr	Arg	Arg	Gln	Pro	Val	Asp	Leu	Ala	Asp	Ala	His	Val	His	Leu	Ser
1				5					10					15	
Asp	Asp	Ala	Phe	Glu	Glu	Asp	Ile	Asn	Ser	Val	Leu	Gln	Arg	Ala	Gln
		20						25					30		
Asp	Ser	Gly	Val	Ser	Leu	Val	Val	Asn	Val	Thr	Thr	Thr	Glu	Lys	Glu
		35					40					45			
Leu	Asn	Arg	Ser	Phe	Ala	Tyr	Ala	Glu	Arg	Phe	Pro	Lys	Ile	Arg	Phe
	50					55					60				
Cys	His	Val	Gly	Gly	Thr	Pro	Pro	Gln	Asp	Val	Asp	Gln	Asp	Ile	Glu
65					70					75				80	
Glu	Asp	Tyr	Arg	Asn	Phe	His	Ala	Ala	Ala	His	Ser	Lys	Lys	Leu	Ala
				85					90					95	
Ala	Ile	Gly	Glu	Val	Gly	Leu	Asp	Tyr	Cys	Phe	Ala	Thr	Glu	Glu	Gly
		100						105					110		
Ile	Ala	Arg	Gln	Lys	Glu	Val	Leu	Gln	Arg	Tyr	Leu	Ala	Leu	Ser	Leu
		115						120					125		
Glu	Cys	Glu	Leu	Pro	Leu	Val	Val	His	Cys	Arg	Gly	Ala	Phe	Asn	Asp
	130					135					140				
Phe	Phe	Arg	Met	Leu	Asp	Gln	Tyr	Tyr	His	Asn	Asp	Pro	Arg	Ser	Arg
145					150					155				160	
Pro	Gly	Met	Leu	His	Cys	Phe	Thr	Gly	Thr	Leu	Glu	Glu	Ala	Gln	Glu
				165					170					175	
Leu	Ile	Ser	Arg	Gly	Trp	Phe	Ile	Ser	Ile	Ser	Gly	Ile	Val	Thr	Phe
			180					185					190		
Lys	Asn	Ala	Gln	Asp	Leu	Arg	Asp	Leu	Val	Val	Glu	Leu	Pro	Leu	Glu
	195						200					205			
His	Leu	Leu	Ile	Glu	Thr	Asp	Ala	Pro	Phe	Leu	Ala	Pro	Val	Pro	Tyr
	210					215					220				
Arg	Gly	Lys	Lys	Asn	Glu	Pro	Ala	His	Val	Leu	His	Thr	Ile	Asn	Ala
225					230						235			240	
Val	Ala	Asn	Val	Lys	Gly	Met	Phe	Pro	Gln	Glu	Leu	Ala	Ala	Leu	Ala
				245					250					255	
Tyr	Lys	Asn	Val	Leu	Arg	Phe	Leu	His	Gly						
			260					265							

<210> 790

<211> 304

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0788

<400> 790

Ser	Leu	Val	Lys	Ser	Leu	Arg	Met	Ser	Arg	His	Glu	Ile	Cys	Pro	Glu
1				5					10					15	
Val	Ser	His	Lys	Lys	Gly	Lys	Tyr	Tyr	Ser	Thr	Phe	Ile	Phe	Arg	Cys
			20					25					30		
Ile	His	Ser	Leu	Ala	Gly	Ile	Ala	Phe	Thr	Phe	Phe	Leu	Cys	Glu	His
		35					40					45			
Leu	Phe	Thr	Asn	Met	Leu	Ala	Ser	Ser	Tyr	Phe	Ser	Gln	Gly	Lys	Gly
	50					55					60				
Phe	Val	Ala	Met	Val	Asn	Gly	Phe	His	Lys	Ile	Pro	Gly	Leu	Lys	Ile
65					70					75				80	
Ile	Glu	Val	Ala	Gly	Leu	Val	Leu	Pro	Phe	Leu	Cys	His	Ala	Ile	Ile
				85					90					95	

Gly Ile Val Tyr Leu Phe Gln Gly Lys Ser Asn Cys Tyr Ser Gly Asp
 100 105 110
 Gly Ser Arg Pro His Leu Arg Tyr Ala Lys Asn Tyr Ser Tyr Thr Trp
 115 120 125
 Gln Arg Trp Thr Ala Trp Ile Leu Leu Phe Gly Ile Ala Phe His Val
 130 135 140
 Val His Leu Arg Phe Ile Arg Tyr Pro Val His Val Asp Ile His Gly
 145 150 155 160
 Thr Thr Tyr Tyr Ala Val Asp Ile Gln Pro Ser Arg Tyr Asp Val Ile
 165 170 175
 Val Arg Gly Thr Lys Gly Phe Leu Thr Leu Asn Leu Pro Asn Thr Glu
 180 185 190
 Ala Ser Ser Ile Glu Val Ser Arg His Asp Leu Gly Gly Ala Asp Ala
 195 200 205
 Ala Leu Leu Ser Glu Arg Asn Ser Tyr Leu Leu Thr Pro Ser Ala Gly
 210 215 220
 Thr Ala Phe Leu Tyr Val Val Arg Asp Ala Leu Gly Ser Leu Phe Ile
 225 230 235 240
 Ala Leu Leu Tyr Thr Ile Leu Val Ile Ala Ala Phe His Gly Phe
 245 250 255
 Asn Gly Leu Trp Thr Phe Cys Cys Arg Trp Gly Val Val Val Ser Leu
 260 265 270
 Arg Met Gln Gly Val Leu Arg Ile Val Cys Tyr Leu Ala Met Ile Val
 275 280 285
 Val Thr Phe Met Gly Val Ser Ala Val Trp Asn Leu Tyr Ser Val Ala
 290 295 300

<210> 791
 <211> 627
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0789

<400> 791
 Gln Met Asp Glu Asn Arg Lys Val Ile Val Val Gly Gly Gly Leu Ala
 1 5 10 15
 Gly Leu Ser Ala Ala Met Gln Leu Ala Asn Leu Gly Ile Ile Val Glu
 20 25 30
 Leu Val Ser Leu Thr Lys Val Lys Arg Ser His Ser Val Cys Ala Gln
 35 40 45
 Gly Gly Ile Asn Ala Ala Leu Asn Leu Lys Pro Glu Glu Glu Asp Ser
 50 55 60
 Pro Tyr Val His Ala Tyr Asp Thr Ile Lys Gly Gly Asp Phe Leu Ala
 65 70 75 80
 Asp Gln Pro Pro Val Leu Glu Met Cys Leu Ala Ala Pro Arg Ile Ile
 85 90 95
 Lys Met Leu Asp Asn Phe Gly Cys Pro Phe Asn Arg Gly Pro Ser Gly
 100 105 110
 Asn Leu Asp Val Arg Arg Phe Gly Gly Thr Leu Tyr His Arg Thr Val
 115 120 125
 Phe Cys Gly Ala Ser Thr Gly Gln Gln Leu Met Tyr Thr Leu Asp Glu
 130 135 140
 Gln Val Arg Arg Arg Glu His Ala Gly Arg Val Ile Lys Arg Glu Asn
 145 150 155 160
 His Glu Phe Val Arg Leu Val Thr Asp His Ser Gly Arg Ala Cys Gly
 165 170 175
 Ile Ile Leu Met Asn Leu Phe Asn Asn Arg Leu Glu Ile Leu Arg Gly
 180 185 190

Asp Ala Val Ile Ile Ala Thr Gly Gly Pro Gly Val Ile Phe Lys Met
 195 200 205
 Ser Thr Asn Ser Thr Phe Cys Thr Gly Ala Ala Asn Gly Arg Leu Phe
 210 215 220
 Leu Gln Gly Met Ala Tyr Ala Asn Pro Glu Phe Ile Gln Ile His Pro
 225 230 235 240
 Thr Ala Ile Pro Gly Arg Asp Lys Leu Arg Leu Ile Ser Glu Ser Val
 245 250 255
 Arg Gly Glu Gly Gly Arg Val Trp Val Pro Gly Asp Ser Ser Lys Arg
 260 265 270
 Ile Val Phe Pro Asp Gly Ser Glu Arg Pro Cys Gly Glu Thr Gly Ala
 275 280 285
 Pro Trp Tyr Phe Leu Glu Asp Met Tyr Pro Ala Tyr Gly Asn Leu Val
 290 295 300
 Ser Arg Asp Val Gly Ala Arg Ala Ile Leu Arg Val Cys Glu Ala Gly
 305 310 315 320
 Leu Gly Ile Asp Gly Arg Met Glu Ala Tyr Leu Asp Val Thr His Leu
 325 330 335
 Pro Glu Lys Thr Arg His Lys Leu Glu Val Val Leu Asp Ile Tyr Lys
 340 345 350
 Lys Phe Thr Gly Glu Asp Pro Asn Thr Val Pro Met Arg Ile Phe Pro
 355 360 365
 Ala Val His Tyr Ser Met Gly Gly Ala Trp Val Asp Trp Pro Ala Ala
 370 375 380
 Asp Asp Pro Asp Arg Asp Ser Arg Phe Arg Gln Met Thr Asn Ile Pro
 385 390 395 400
 Gly Cys Phe Asn Cys Gly Glu Ser Asp Phe Gln Tyr His Gly Ala Asn
 405 410 415
 Arg Leu Gly Ala Asn Ser Leu Leu Ser Cys Leu Phe Ala Gly Leu Val
 420 425 430
 Ser Gly Asp Glu Ala Ser Arg Phe Ile Glu Ala Phe Gly Ala Ser Gln
 435 440 445
 Ala Thr Ser Ser Asp Phe Asp Arg Ala Leu Gln Gln Glu Lys Glu Glu
 450 455 460
 Asn Ala Arg Leu Leu Ser Ala Ser Gly Lys Glu Asn Ile Phe Val Leu
 465 470 475 480
 His Glu Glu Ile Ala Lys Ile Met Val Arg Asn Val Thr Val Lys Arg
 485 490 495
 Asn Asn Arg Asp Leu Gln Glu Thr Met Asp Lys Leu Lys Glu Phe Arg
 500 505 510
 Glu Arg Leu Lys Asn Val Ser Val Leu Asp Ser Ser Pro Phe Ala Asn
 515 520 525
 Lys Ser Phe His Phe Val Arg Gln Met Gly Pro Met Leu Glu Leu Ala
 530 535 540
 Leu Ala Ile Thr Lys Gly Ala Leu Leu Arg Asn Glu Phe Arg Gly Ser
 545 550 555 560
 His Tyr Lys Pro Glu Phe Pro Glu Arg Asp Asp Glu His Trp Leu Lys
 565 570 575
 Thr Thr Val Ala Val Tyr Ala Pro Glu Glu Pro Glu Ile Ser Tyr Leu
 580 585 590
 Pro Val Asp Thr Arg His Val Ala Pro Thr Leu Arg Asp Tyr Thr Lys
 595 600 605
 Ser Ser Thr Gly Lys Ile Glu Leu Thr Asn Ile Pro Asp Asn Ile Arg
 610 615 620
 Leu Pro Ile
 625

<210> 792
 <211> 275
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0790

<400> 792

Asn Ser Arg Ile Phe Leu Ile Ile Ser Val Tyr Pro Tyr Arg Lys Arg
1 5 10 15
Glu Met Met Glu Asn Leu Glu Thr Phe Ile Leu Lys Ile Tyr Arg Gly
20 25 30
Val Pro Gly Lys Gln Tyr Trp Glu Ser Phe Glu Leu Pro Leu His Pro
35 40 45
Gly Glu Asn Val Ile Ser Ala Leu Met Glu Ile Glu Lys Arg Pro Val
50 55 60
Asn Ile Leu Gly Glu Lys Val Asn Pro Val Val Trp Glu Gln Gly Cys
65 70 75 80
Leu Glu Glu Val Cys Gly Ser Cys Ser Ile Leu Val Asn Gly Val Pro
85 90 95
Arg Gln Ala Cys Thr Ala Leu Ile Gln Glu Tyr Ile Asp Ala Thr Gln
100 105 110
Ser Arg Glu Ile Val Leu Ala Pro Leu Thr Lys Phe Pro Leu Ile Arg
115 120 125
Asp Leu Ile Val Asp Arg Ser Ile Met Phe Asp Asn Leu Glu Arg Ile
130 135 140
Gln Gly Trp Val Ala Ala Asp Ile Glu Gly Glu Thr Phe Gly Pro Gln
145 150 155 160
Val Thr Gln Glu Gln Gln Glu Leu Leu Tyr Ala Leu Ser Gln Cys Met
165 170 175
Thr Cys Gly Cys Cys Thr Glu Ala Cys Pro Gln Ile Asp Asn Lys Ser
180 185 190
Asp Phe Ile Gly Pro Ala Ala Ile Ser Gln Ala Arg Tyr Phe Asn Thr
195 200 205
Tyr Pro Gly Asp Lys Arg Ser Lys Lys Arg Trp Arg Ala Leu Met Gly
210 215 220
Lys Gly Gly Ile Glu Gly Cys Gly Gln Ala His Asn Cys Val Arg Val
225 230 235 240
Cys Pro Lys Lys Leu Pro Leu Thr Glu Ser Ile Ser Ala Val Gly Arg
245 250 255
Glu Ile Ser Lys Phe Ser Leu Arg Ser Leu Phe Ser Ala Leu Phe Lys
260 265 270
Lys Lys Lys
275

<210> 793

<211> 998

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0791

<400> 793

Thr Cys Leu Arg Ser Ser Arg Lys Ile Val Val Glu Asp Ile Ser Asp
1 5 10 15
Arg Asn Met Tyr Ser Cys Tyr Ser Lys Gly Ile Ser His Asn Tyr Leu
20 25 30
Leu His Pro Met Ser Arg Leu Asp Ile Phe Val Phe Asp Ser Leu Ile
35 40 45
Ala Asn Gln Asp Gln Asn Leu Glu Glu Ile Phe Cys Ser Glu Asp
50 55 60
Thr Val Leu Phe Lys Ala Tyr Arg Thr Thr Ala Leu Gln Ser Pro Leu
65 70 75 80

Ala	Ala	Lys	Asn	Leu	Asn	Ile	Ala	Arg	Lys	Val	Ala	Asn	Tyr	Ile	Leu	85	90	95
Ala	Asp	Asn	Gly	Glu	Ile	Asp	Thr	Val	Lys	Leu	Val	Glu	Ala	Ile	His	100	105	110
His	Leu	Ser	Gln	Cys	Thr	Tyr	Pro	Leu	Gly	Pro	His	Arg	His	Asn	Glu	115	120	125
Ala	Gln	Asp	Arg	Glu	His	Leu	Leu	Lys	Met	Leu	Lys	Ala	Leu	Lys	Glu	130	135	140
Asn	Pro	Lys	Leu	Lys	Glu	Ser	Ile	Lys	Thr	Leu	Phe	Val	Pro	Ser	Tyr	145	150	155
Ser	Thr	Ile	Gln	Asn	Leu	Ile	Arg	His	Thr	Leu	Ala	Leu	Asn	Pro	Gln	165	170	175
Thr	Ile	Leu	Ser	Thr	Ile	His	Val	Arg	Gln	Ala	Ala	Leu	Thr	Ala	Leu	180	185	190
Phe	Thr	Tyr	Leu	Arg	Gln	Asp	Val	Gly	Ser	Cys	Phe	Ala	Thr	Ala	Pro	195	200	205
Ala	Ile	Leu	Ile	His	Gln	Glu	Tyr	Pro	Glu	Arg	Phe	Leu	Lys	Asp	Leu	210	215	220
Asn	Asp	Leu	Ile	Ser	Ser	Gly	Lys	Leu	Ser	Arg	Ile	Val	Asn	Gln	Arg	225	230	235
Glu	Ile	Ala	Val	Pro	Ile	Asn	Leu	Ser	Gly	Cys	Ile	Gly	Glu	Leu	Phe	245	250	255
Lys	Pro	Leu	Arg	Ile	Leu	Asp	Leu	Tyr	Pro	Asp	Pro	Leu	Val	Lys	Leu	260	265	270
Ser	Ser	Ser	Pro	Gly	Leu	Lys	Lys	Ala	Phe	Ser	Ala	Ala	Asn	Leu	Ile	275	280	285
Glu	Thr	Leu	Gly	Asp	Ser	Glu	Ala	Gln	Ile	Gln	Gln	Leu	Leu	Ser	His	290	295	300
Gln	Tyr	Leu	Met	Gln	Lys	Leu	Gln	Asn	Val	His	Glu	Thr	Leu	Thr	Ala	305	310	315
Asn	Asp	Ile	Ile	Lys	Ser	Thr	Leu	Leu	His	Tyr	Tyr	Gln	Leu	Gln	Glu	325	330	335
Ser	Thr	Val	Arg	Ala	Ile	Phe	Phe	Lys	Glu	Gly	Leu	Phe	Ser	Lys	Glu	340	345	350
Gln	Val	Ala	Phe	Ser	Thr	Gln	His	Pro	Arg	Glu	Leu	Ser	Glu	Ile	Gln	355	360	365
Arg	Val	Tyr	His	Tyr	Leu	His	Ala	Tyr	Glu	Glu	Ala	Lys	Ser	Ala	Phe	370	375	380
Ile	His	Asp	Thr	Gln	Asn	Pro	Leu	Leu	Lys	Ala	Trp	Glu	Tyr	Thr	Leu	385	390	395
Ala	Thr	Leu	Ala	Asp	Ala	Ser	Gln	Pro	Thr	Ile	Ser	Asn	His	Ile	Arg	405	410	415
Leu	Ala	Leu	Gly	Trp	Lys	Ser	Glu	Asp	Pro	His	Ser	Leu	Val	Ser	Leu	420	425	430
Val	Thr	His	Phe	Val	Glu	Glu	Glu	Val	Glu	Asn	Ile	Arg	Ile	Leu	Val	435	440	445
Gln	Gln	Cys	Glu	Gln	Thr	Tyr	His	Glu	Ala	Arg	Ser	Gln	Leu	Glu	Tyr	450	455	460
Ile	Glu	Gly	Arg	Met	Arg	Asn	Pro	Leu	Asn	Asn	Gln	Asp	Ser	Gln	Ile	465	470	475
Leu	Thr	Met	Asp	His	Met	Arg	Phe	Arg	Gln	Glu	Leu	Asn	Lys	Ala	Leu	485	490	495
Tyr	Glu	Trp	Asp	Ser	Ala	Gln	Glu	Lys	Ala	Lys	Lys	Phe	Leu	His	Leu	500	505	510
Pro	Glu	Phe	Leu	Leu	Ser	Phe	Tyr	Thr	Lys	Gln	Ile	Pro	Leu	Tyr	Phe	515	520	525
Arg	Ser	Ser	Tyr	Asp	Ala	Phe	Ile	Gln	Glu	Phe	Ala	His	Leu	Tyr	Ala	530	535	540
Asn	Ala	Pro	Ala	Gly	Phe	Arg	Ile	Leu	Phe	Thr	His	Gly	Arg	Thr	His	545	550	555

Pro Asn Thr Trp Ser Pro Ile Tyr Ser Ile Asn Glu Phe Ile Arg Phe
 565 570 575
 Leu Ser Glu Phe Thr Ser Thr Glu Ser Glu Leu Leu Gly Lys His
 580 585 590
 Ala Val Ile Asn Leu Glu Lys Glu Thr Ser Arg Leu Val His Asn Ile
 595 600 605
 Thr Ala Met Leu His Thr Asp Val Phe Gln Glu Ala Leu Leu Thr Arg
 610 615 620
 Ile Leu Glu Ala Tyr Gln Leu Pro Val Pro Pro Ser Ile Leu Asn His
 625 630 635 640
 Leu Asp Gln Leu Ser Gln Thr Pro Trp Val Tyr Val Ser Gly Gly Thr
 645 650 655
 Val Asp Thr Leu Leu Leu Asp Tyr Phe Glu Ser Ser Glu Pro Leu Thr
 660 665 670
 Leu Thr Glu Lys His Pro Glu Asn Pro His Glu Leu Ala Ala Phe Tyr
 675 680 685
 Ala Asp Ala Leu Lys Asp Leu Pro Thr Gly Ile Lys Ser Tyr Leu Glu
 690 695 700
 Glu Gly Ser His Ser Leu Leu Ser Ser Ser Pro Thr His Val Phe Ser
 705 710 715 720
 Ile Ile Ala Gly Ser Pro Leu Phe Arg Glu Ala Trp Asp Asn Asp Trp
 725 730 735
 Tyr Ser Tyr Thr Trp Leu Arg Asp Val Trp Val Lys Gln His Gln Asp
 740 745 750
 Phe Leu Gln Asp Thr Ile Leu Pro Gln Leu Ser Ile Tyr Ala Phe Ile
 755 760 765
 Glu Asn Phe Cys Asn Lys Tyr Ala Leu Gln His Val Val His Asp Phe
 770 775 780
 His Asp Phe Cys Ser Asp His Ser Leu Thr Leu Pro Glu Leu Tyr Asp
 785 790 795 800
 Lys Gly Ser Arg Phe Leu Ser Ser Leu Phe Thr Lys Asp Lys Thr Val
 805 810 815
 Ala Leu Ile Tyr Ile Arg Arg Leu Leu Tyr Leu Met Val Arg Glu Val
 820 825 830
 Pro Tyr Val Ser Glu Gln Gln Leu Pro Glu Val Leu Asp Asn Val Ser
 835 840 845
 Ser Tyr Leu Gly Ile Ser Ser Arg Ile Thr Tyr Glu Lys Phe Arg Ser
 850 855 860
 Leu Ile Glu Glu Thr Ile Pro Lys Met Thr Leu Leu Ser Ser Ala Asp
 865 870 875 880
 Leu Arg His Ile Tyr Lys Gly Leu Leu Met Gln Ser Tyr Gln Lys Ile
 885 890 895
 Tyr Thr Glu Glu Asp Thr Tyr Leu Arg Leu Thr Thr Ala Met Arg His
 900 905 910
 His Asn Leu Ala Tyr Pro Ala Pro Leu Leu Phe Ala Asp Ser Asn Trp
 915 920 925
 Pro Ser Ile Tyr Phe Gly Phe Ile Leu Asn Pro Gly Thr Thr Glu Ile
 930 935 940
 Asp Leu Trp Lys Phe Asn Tyr Ala Gly Leu Gln Gly Gln Pro Leu Asp
 945 950 955 960
 Asn Ile Gln Glu Leu Phe Ala Thr Ser Arg Pro Trp Thr Leu Tyr Ala
 965 970 975
 Asn Pro Ile Asp Tyr Gly Met Pro Pro Pro Pro Gly Tyr Arg Ser Arg
 980 985 990
 Leu Pro Lys Glu Phe Phe
 995

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 <211> 616
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0792

<400> 794

Arg	His	His	Leu	Ile	Asn	Ile	Lys	Gly	Ile	Arg	Ile	Met	Lys	His	Thr
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Phe	Thr	Lys	Arg	Val	Leu	Phe	Phe	Phe	Phe	Leu	Val	Ile	Pro	Ile	Pro
			20					25					30		
Leu	Leu	Leu	Asn	Leu	Met	Val	Val	Gly	Phe	Phe	Ser	Phe	Ser	Ala	Ala
		35					40					45			
Lys	Ala	Asn	Leu	Val	Gln	Val	Leu	His	Thr	Arg	Ala	Thr	Asn	Leu	Ser
	50					55					60				
Ile	Glu	Phe	Glu	Lys	Lys	Leu	Thr	Ile	His	Lys	Leu	Phe	Leu	Asp	Arg
65					70					75					80
Leu	Ala	Asn	Thr	Leu	Ala	Leu	Lys	Ser	Tyr	Ala	Ser	Pro	Ser	Ala	Glu
			85						90					95	
Pro	Tyr	Ala	Gln	Ala	Tyr	Asn	Glu	Met	Met	Ala	Leu	Ser	Asn	Thr	Asp
		100						105					110		
Phe	Ser	Leu	Cys	Leu	Ile	Asp	Pro	Phe	Asp	Gly	Ser	Val	Arg	Thr	Lys
		115						120					125		
Asn	Pro	Gly	Asp	Pro	Phe	Ile	Arg	Tyr	Leu	Lys	Gln	His	Pro	Glu	Met
	130					135					140				
Lys	Lys	Lys	Leu	Ser	Ala	Ala	Val	Gly	Lys	Ala	Phe	Leu	Leu	Thr	Ile
145					150					155					160
Pro	Gly	Lys	Pro	Leu	Leu	His	Tyr	Leu	Ile	Leu	Val	Glu	Asp	Val	Ala
				165					170					175	
Ser	Trp	Asp	Ser	Thr	Thr	Thr	Ser	Gly	Leu	Leu	Val	Ser	Phe	Tyr	Pro
		180						185					190		
Met	Ser	Phe	Leu	Gln	Lys	Asp	Leu	Phe	Gln	Ser	Leu	His	Ile	Thr	Lys
		195					200					205			
Gly	Asn	Ile	Cys	Leu	Val	Asn	Lys	Tyr	Gly	Glu	Val	Leu	Phe	Cys	Ala
	210					215					220				
Gln	Asp	Ser	Glu	Ser	Ser	Phe	Val	Phe	Ser	Leu	Asp	Leu	Pro	Asn	Leu
225					230					235					240
Pro	Gln	Phe	Gln	Ala	Arg	Ser	Pro	Ser	Ala	Ile	Glu	Ile	Glu	Lys	Ala
				245					250					255	
Ser	Gly	Ile	Leu	Gly	Gly	Glu	Asn	Leu	Ile	Thr	Val	Ser	Ile	Asn	Lys
		260					265						270		
Lys	Arg	Tyr	Leu	Gly	Leu	Val	Leu	Asn	Lys	Ile	Pro	Ile	Gln	Gly	Thr
	275						280						285		
Tyr	Thr	Leu	Ser	Leu	Val	Pro	Val	Ser	Asp	Leu	Ile	Gln	Ser	Ala	Leu
	290					295					300				
Lys	Val	Pro	Leu	Asn	Ile	Cys	Phe	Phe	Tyr	Val	Leu	Ala	Phe	Leu	Leu
305				310						315					320
Met	Trp	Trp	Ile	Phe	Ser	Lys	Ile	Asn	Thr	Lys	Leu	Asn	Lys	Pro	Leu
				325					330					335	
Gln	Glu	Leu	Thr	Phe	Cys	Met	Glu	Ala	Ala	Trp	Arg	Gly	Asn	His	Asn
			340					345					350		
Val	Arg	Phe	Glu	Pro	Gln	Pro	Tyr	Gly	Tyr	Glu	Phe	Asn	Glu	Leu	Gly
		355					360					365			
Asn	Ile	Phe	Asn	Cys	Thr	Leu	Leu	Leu	Leu	Leu	Asn	Ser	Ile	Glu	Lys
	370					375					380				
Ala	Asp	Ile	Asp	Tyr	His	Ser	Gly	Glu	Lys	Leu	Gln	Lys	Glu	Leu	Gly
385					390					395					400
Ile	Leu	Ser	Ser	Leu	Gln	Ser	Ala	Leu	Leu	Ser	Pro	Asp	Phe	Pro	Thr
				405					410					415	
Phe	Pro	Lys	Val	Thr	Phe	Ser	Ser	Gln	His	Leu	Arg	Arg	Arg	Gln	Leu
			420					425					430		
Ser	Gly	His	Phe	Asn	Gly	Trp	Thr	Val	Gln	Asp	Gly	Gly	Asp	Thr	Leu
		435					440					445			

Leu Gly Ile Ile Gly Leu Ala Gly Asp Ile Gly Leu Pro Ser Tyr Leu
 450 455 460
 Tyr Ala Leu Ser Ala Arg Ser Leu Phe Leu Ala Tyr Ala Ser Ser Asp
 465 470 475 480
 Val Ser Leu Gln Lys Ile Ser Lys Asp Thr Ala Asp Ser Phe Ser Lys
 485 490 495
 Thr Thr Glu Gly Asn Glu Ala Val Val Ala Met Thr Phe Ile Lys Tyr
 500 505 510
 Val Glu Lys Asp Arg Ser Leu Glu Leu Leu Ser Leu Ser Glu Gly Ala
 515 520 525
 Pro Thr Met Phe Leu Gln Arg Gly Glu Ser Phe Val Arg Leu Pro Leu
 530 535 540
 Glu Thr His Gln Ala Leu Gln Pro Gly Asp Arg Leu Ile Cys Leu Thr
 545 550 555 560
 Gly Gly Glu Asp Ile Leu Lys Tyr Phe Ser Gln Leu Pro Ile Glu Glu
 565 570 575
 Leu Leu Lys Asp Pro Leu Asn Pro Leu Asn Thr Glu Asn Leu Ile Asp
 580 585 590
 Ser Leu Thr Met Met Leu Asn Asn Glu Thr Glu His Ser Ala Asp Gly
 595 600 605
 Thr Leu Thr Ile Leu Ser Phe Ser
 610 615

<210> 795
 <211> 640
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0793

<400> 795
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 Leu Trp Leu Ala Cys Ala Val Ala Ile Ile Ala Pro Leu Gly Ile Asn
 20 25 30
 Ile Val Trp Leu Asn Leu Asp Gln Tyr Arg Thr Ile Val Ser Ala Ile
 35 40 45
 Ser Thr Ala Leu Lys Glu Asn Ala Ala Phe Lys Ala Asn Thr Leu Thr
 50 55 60
 Gln Ile Val Pro Leu Asn Val Asp Val Leu Ser Leu Phe Ser Asp Val
 65 70 75 80
 Leu Asp Leu Asp Ala Gly Ile Pro Glu Thr Pro Asn Val Leu Leu Ser
 85 90 95
 Asn Glu Met Gln Lys Val Phe Gln Gly Ile Tyr Asn Glu Ile Ser Leu
 100 105 110
 Ile Lys Val Phe Pro Asn Gly Asp Lys Ile Val Val Ala Ser Ser Ile
 115 120 125
 Pro Glu His Leu Gly Glu Asn Tyr Asn His Lys Ile Asp Ile Pro Lys
 130 135 140
 Asn Thr Pro Phe Leu Ala Ala Leu Lys Gln Ser Pro Lys Asn Gln Glu
 145 150 155 160
 Val Phe Ser Val Met Gln Ala Asn Val Phe Asp Ala Lys Thr Gln Glu
 165 170 175
 Leu Gln Gly Ile Leu Tyr Thr Thr Phe Ser Ala Glu Ser Leu Leu Lys
 180 185 190
 Asp Leu Leu Ile Asn Lys Gln Ser Tyr Leu Thr Val Lys Thr Ala Ile
 195 200 205
 Leu Ser Lys Tyr Gly Val Ile Leu Lys Ala Ser Asp Pro Ala Leu His
 210 215 220

Leu	His	Thr	Val	Tyr	Pro	Asp	Met	Thr	Lys	Glu	Lys	Phe	Cys	Gln	Val
225					230					235					240
Phe	Leu	Asn	Asp	Asp	Pro	Cys	Pro	Ile	Asp	Ser	Glu	Leu	Gly	Pro	Leu
			245						250					255	
Thr	Leu	Ser	Pro	Leu	Asp	Ile	Gly	Glu	Asn	Phe	Tyr	Ser	Phe	Lys	Ile
			260					265					270		
Lys	Asp	Thr	Glu	Ile	Trp	Gly	Cys	Ile	Glu	Asn	Val	Pro	Ser	Ile	Asp
		275				280					285				
Ile	Ala	Val	Leu	Ser	Tyr	Ala	Lys	Lys	Glu	Glu	Ser	Phe	Ala	Pro	Leu
	290					295					300				
Trp	Arg	Arg	Ala	Arg	Met	Tyr	Thr	Ala	Tyr	Phe	Phe	Cys	Ile	Leu	Leu
305					310					315					320
Gly	Ser	Leu	Ile	Ala	Phe	Ile	Val	Ala	Arg	Arg	Leu	Ser	Leu	Pro	Ile
				325					330					335	
Arg	Lys	Leu	Ala	Thr	Ala	Met	Ile	Glu	Ser	Arg	Lys	Asn	Lys	Asn	Cys
			340					345					350		
Leu	Tyr	Thr	Asp	Asp	Ser	Leu	Gly	Phe	Glu	Ile	Asn	Arg	Leu	Gly	His
	355						360					365			
Ile	Phe	Asn	Ala	Met	Val	Glu	Asn	Leu	His	Lys	Gln	Gln	His	Leu	Ala
	370					375					380				
Lys	Thr	Asn	Phe	Glu	Met	Lys	Glu	Asn	Ala	Gln	Asn	Ala	Leu	His	Leu
385					390					395					400
Gly	Glu	Gln	Ala	Gln	Gln	Arg	Leu	Leu	Pro	Asn	Thr	Leu	Pro	Ser	Tyr
				405					410					415	
Pro	His	Ile	Glu	Leu	Ala	Lys	Ala	Tyr	Ile	Pro	Ala	Ile	Thr	Val	Gly
			420					425					430		
Gly	Asp	Phe	Phe	Asp	Val	Phe	Val	Val	Gly	Glu	Gly	Ser	Lys	Ala	Arg
	435					440						445			
Leu	Phe	Leu	Ile	Val	Ala	Asp	Ala	Ser	Gly	Lys	Gly	Val	Asn	Ala	Cys
	450					455					460				
Gly	Tyr	Ser	Leu	Phe	Leu	Lys	Asn	Met	Leu	Arg	Thr	Phe	Leu	Ser	Arg
465					470					475					480
Ser	Ser	Ser	Leu	Gln	Ala	Ile	Gln	Glu	Thr	Ser	Arg	Leu	Phe	Tyr	
				485					490					495	
Asn	Asn	Thr	Lys	Asn	Ser	Gly	Met	Phe	Val	Thr	Leu	Cys	Val	Tyr	Cys
			500					505					510		
Tyr	His	Gln	Thr	Ser	Asn	Thr	Met	Glu	Tyr	Tyr	Ser	Cys	Gly	His	Pro
	515						520					525			
Pro	Ala	Cys	Tyr	Leu	Asp	Pro	Asp	Gly	Glu	Thr	Ser	Trp	Leu	Phe	His
	530					535					540				
Pro	Gly	Met	Ala	Leu	Gly	Phe	Leu	Pro	Glu	Val	Ala	Asn	Ile	Thr	Ser
545					550					555					560
Lys	Leu	Phe	His	Pro	Lys	Pro	Gly	Ser	Leu	Phe	Val	Leu	Tyr	Ser	Asp
				565					570					575	
Gly	Ile	Thr	Glu	Ala	His	Asn	Asn	Asn	Asn	Asp	Met	Phe	Gly	Glu	Glu
			580					585					590		
Arg	Leu	Gln	Ala	Ala	Ile	Gln	Gly	Leu	Thr	Gly	Lys	Ser	Ala	Ala	Asp
	595						600					605			
Ala	Val	His	Arg	Leu	Met	Leu	Ser	Val	Lys	Thr	Phe	Val	Gly	Asn	Ser
	610					615					620				
His	Gln	His	Asp	Asp	Ile	Thr	Leu	Leu	Ile	Leu	Lys	Val	Leu	Glu	Ser
625					630					635					640

<210> 796
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0794

<400> 796

Lys	Ser	Ser	Lys	His	Arg	Ser	Phe	Leu	Leu	Lys	Lys	Ser	Gly	Gly	Asn
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Gln	Val	Ser	Leu	Tyr	Gln	Lys	Trp	Trp	Asn	Ser	Gln	Leu	Lys	Lys	Ser
			20					25				30			
Leu	Cys	Tyr	Ser	Thr	Val	Ala	Ala	Leu	Ile	Phe	Met	Ile	Pro	Ser	Gln
	35					40					45				
Glu	Ser	Phe	Ala	Asp	Ser	Leu	Ile	Asp	Leu	Asn	Leu	Gly	Leu	Asp	Pro
50					55					60					
Ser	Val	Glu	Cys	Leu	Ser	Gly	Asp	Gly	Ala	Phe	Ser	Val	Gly	Tyr	Phe
65				70					75					80	
Thr	Lys	Ala	Gly	Ser	Thr	Pro	Val	Glu	Tyr	Gln	Pro	Phe	Lys	Tyr	Asp
			85					90					95		
Val	Ser	Lys	Lys	Thr	Phe	Thr	Ile	Leu	Ser	Val	Glu	Thr	Ala	Asn	Gln
			100					105					110		
Ser	Gly	Tyr	Ala	Tyr	Gly	Ile	Ser	Tyr	Asp	Gly	Thr	Ile	Thr	Val	Gly
	115				120							125			
Thr	Cys	Ser	Leu	Gly	Ala	Gly	Lys	Tyr	Asn	Gly	Ala	Lys	Trp	Ser	Ala
130				135						140					
Asp	Gly	Thr	Leu	Thr	Pro	Leu	Thr	Gly	Ile	Thr	Gly	Gly	Thr	Ser	His
145				150					155						160
Thr	Glu	Ala	Arg	Ala	Ile	Ser	Lys	Asp	Thr	Gln	Val	Ile	Glu	Gly	Phe
			165					170					175		
Ser	Tyr	Asp	Ala	Ser	Gly	Gln	Pro	Lys	Ala	Val	Gln	Trp	Ala	Ser	Gly
	180						185						190		
Ala	Thr	Thr	Val	Thr	Gln	Leu	Ala	Asp	Ile	Ser	Gly	Gly	Ser	Arg	Ser
	195					200						205			
Ser	Tyr	Ala	Tyr	Ala	Ile	Ser	Asp	Asp	Gly	Thr	Ile	Ile	Val	Gly	Ser
210					215						220				
Met	Glu	Ser	Thr	Ile	Thr	Arg	Lys	Thr	Thr	Ala	Val	Lys	Trp	Val	Asn
225				230					235						240
Asn	Val	Pro	Thr	Tyr	Leu	Gly	Thr	Leu	Gly	Gly	Asp	Ala	Ser	Thr	Gly
			245					250					255		
Leu	Tyr	Ile	Ser	Gly	Asp	Gly	Thr	Val	Ile	Val	Gly	Ala	Ala	Asn	Thr
	260						265					270			
Ala	Thr	Val	Thr	Asn	Gly	Asn	Gln	Glu	Ser	His	Ala	Tyr	Met	Tyr	Lys
	275					280					285				
Asp	Asn	Gln	Met	Lys	Asp										
290															

<210> 797

<211> 396

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0795

<400> 797

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Gly	Ser	Val	Ile	Val	Gly	Gln	Ala	Gln	Thr	Ala	Asp	Lys	Ser	Val	His
			20					25				30			
Ala	Phe	Gln	Tyr	Tyr	Asn	Gly	Glu	Met	Lys	Asp	Leu	Gly	Thr	Leu	Gly
	35					40					45				
Gly	Thr	Ser	Ser	Thr	Ala	Lys	Thr	Val	Ser	Pro	Asp	Gly	Lys	Val	Ile
50					55					60					
Met	Gly	Arg	Ser	Gln	Ile	Ala	Asp	Gly	Ser	Trp	His	Ala	Phe	Met	Cys
65				70					75					80	
His	Thr	Asp	Phe	Ser	Ser	Asn	Asn	Val	Leu	Phe	Asp	Leu	Asp	Asn	Thr
			85					90						95	

Tyr Lys Thr Leu Arg Glu Asn Gly Arg Gln Leu Asn Ser Ile Phe Asn
 100 105 110
 Leu Gln Asn Met Met Leu Gln Arg Ala Ser Asp His Glu Phe Thr Glu
 115 120 125
 Phe Gly Arg Ser Asn Ile Ala Leu Gly Ala Gly Leu Tyr Val Asn Ala
 130 135 140
 Leu Gln Asn Leu Pro Ser Asn Leu Ala Ala Gln Tyr Phe Gly Ile Ala
 145 150 155 160
 Tyr Lys Ile Arg Pro Lys Tyr Arg Leu Gly Val Phe Leu Asp His Asn
 165 170 175
 Phe Ser Ser His Val Pro Asn Asn Phe Asn Val Ser His Asn Arg Leu
 180 185 190
 Trp Met Gly Ala Phe Ile Gly Trp Gln Asp Ser Asp Ala Leu Gly Ser
 195 200 205
 Ser Val Lys Val Ser Phe Gly Tyr Gly Lys Gln Lys Ala Thr Ile Thr
 210 215 220
 Arg Glu Gln Leu Glu Asn Thr Glu Ala Gly Ser Gly Glu Ser His Phe
 225 230 235 240
 Glu Gly Val Ala Ala Gln Ile Glu Gly Arg Tyr Gly Lys Ser Leu Gly
 245 250 255
 Gly His Val Arg Val Gln Pro Phe Leu Gly Leu Gln Phe Val His Ile
 260 265 270
 Thr Arg Lys Glu Tyr Thr Glu Asn Ala Val Gln Phe Pro Val His Tyr
 275 280 285
 Asp Pro Ile Asp Tyr Ser Thr Gly Val Val Tyr Leu Gly Ile Gly Ser
 290 295 300
 His Ile Ala Leu Val Asp Ser Leu His Val Gly Thr Arg Met Gly Met
 305 310 315 320
 Glu Gln Asn Phe Ala Ala His Thr Asp Arg Phe Ser Gly Ser Ile Ala
 325 330 335
 Ser Ile Gly Asn Phe Val Phe Glu Lys Leu Asp Val Thr His Thr Arg
 340 345 350
 Ala Phe Ala Glu Met Arg Val Asn Tyr Glu Leu Pro Tyr Leu Gln Ser
 355 360 365
 Leu Asn Leu Ile Leu Arg Val Asn Gln Gln Pro Leu Gln Gly Val Met
 370 375 380
 Gly Phe Ser Ser Asp Leu Arg Tyr Ala Leu Gly Phe
 385 390 395

<210> 798
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0796

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 Val Arg Asn Ser Ala Leu Pro Leu Pro Cys Leu Ser Arg Ser Glu Thr
 20 25 30
 Phe Lys Lys Val Arg Ser His Met Lys Phe Met Lys Val Leu Thr Pro
 35 40 45
 Trp Ile Tyr Arg Lys Asp Leu Trp Val Thr Ala Phe Leu Leu Thr Ala
 50 55 60
 Ile Pro Gly Ser Phe Ala His Thr Leu Val Asp Ile Ala Gly Glu Pro
 65 70 75 80
 Arg His Ala Ala Gln Ala Thr Gly Val Ser Gly Asp Gly Lys Ile Val
 85 90 95

Ile Gly Met Lys Val Pro Asp Asp Pro Phe Ala Ile Thr Val Gly Phe
 100 105 110
 Gln Tyr Ile Asp Gly His Leu Gln Pro Leu Glu Ala Val Arg Pro Gln
 115 120 125
 Cys Ser Val Tyr Pro Asn Gly Ile Thr Pro Asp Gly Thr Val Ile Val
 130 135 140
 Gly Thr Asn Tyr Ala Ile Gly Met Gly Ser Val Ala Val Lys Trp Val
 145 150 155 160
 Asn Gly Lys Val Ser Glu Leu Pro Met Leu Pro Asp Thr Leu Asp Ser
 165 170 175
 Val Ala Ser Ala Val Ser Ala Asp Gly Arg Val Ile Gly Gly Asn Arg
 180 185 190
 Asn Ile Asn Leu Gly Ala Ser Val Ala Val Lys Trp Glu Asp Asp Val
 195 200 205
 Ile Thr Gln Leu Pro Ser Leu Pro Asp Ala Met Asn Ala Cys Val Asn
 210 215 220
 Gly Ile Ser Ser Asp Gly Ser Ile Ile Val Gly Thr Met Val Asp Val
 225 230 235 240
 Ser Trp Arg Asn Thr Ala Val Gln Trp Ile Gly Asp Gln Leu Ser Val
 245 250 255
 Ile Gly Thr Leu Gly Gly Thr Thr Ser Val Ala Ser Ala Ile Ser Thr
 260 265 270
 Asp Gly Thr Val Ile Val Gly Gly Ser Glu Asn Ala Asp Ser Gln Thr
 275 280 285
 His Ala Tyr Ala Tyr Lys Asn Gly Val Met Ser Asp Ile Gly Thr Leu
 290 295 300
 Gly Gly Phe Tyr Ser Leu Ala His Ala Val Ser Ser Asp Gly Ser Val
 305 310 315 320
 Ile Val Gly Val Ser Thr Asn Ser Glu His Arg Tyr His Ala Phe Gln
 325 330 335
 Tyr Ala Asp Gly Gln Met Val Asp Leu Gly Thr Leu Gly Gly Pro Glu
 340 345 350
 Ser Tyr Ala Gln Gly Val Ser Gly Asp Gly Lys Val Ile Val Gly Arg
 355 360 365
 Ala Gln Val Pro Ser Gly Asp Trp His Ala Phe Leu Cys Pro Phe Gln
 370 375 380
 Ala Pro Ser Pro Ala Pro Val His Gly Gly Ser Thr Val Val Thr Ser
 385 390 395 400
 Gln Asn Pro Arg Gly Met Val Asp Ile Asn Ala Thr Tyr Ser Ser Leu
 405 410 415
 Lys Asn Ser Gln Gln Gln Leu Gln Arg Leu Leu Ile Gln His Ser Ala
 420 425 430
 Lys Val Glu Ser Val Ser Ser Gly Ala Pro Ser Phe Thr Ser Val Lys
 435 440 445
 Gly Ala Ile Ser Lys Gln Ser Pro Ala Val Gln Asn Asp Val Gln Lys
 450 455 460
 Gly Thr Phe Leu Ser Tyr Arg Ser Gln Val His Gly Asn Val Gln Asn
 465 470 475 480
 Gln Gln Leu Leu Thr Gly Ala Phe Met Asp Trp Lys Leu Ala Ser Ala
 485 490 495
 Pro Lys Cys Gly Phe Lys Val Ala Leu His Tyr Gly Ser Gln Asp Ala
 500 505 510
 Leu Val Glu Arg Ala Ala Leu Pro Tyr Thr Glu Gln Gly Leu Gly Ser
 515 520 525
 Ser Val Leu Ser Gly Phe Gly Gly Gln Val Gln Gly Arg Tyr Asp Phe
 530 535 540
 Asn Leu Gly Glu Thr Val Val Leu Gln Pro Phe Met Gly Ile Gln Val
 545 550 555 560
 Leu His Leu Ser Arg Glu Gly Tyr Ser Glu Lys Asn Val Arg Phe Pro
 565 570 575

Val Ser Tyr Asp Ser Val Ala Tyr Ser Ala Ala Thr Ser Phe Met Gly
 580 585 590
 Ala His Val Phe Ala Ser Leu Ser Pro Lys Met Ser Thr Ala Ala Thr
 595 600 605
 Leu Gly Val Glu Arg Asp Leu Asn Ser His Ile Asp Glu Phe Lys Gly
 610 615 620
 Ser Val Ser Ala Met Gly Asn Phe Val Leu Glu Asn Ser Thr Val Ser
 625 630 635 640
 Val Leu Arg Pro Phe Ala Ser Leu Ala Met Tyr Tyr Asp Val Arg Gln
 645 650 655
 Gln Gln Leu Val Thr Leu Ser Val Val Met Asn Gln Gln Pro Leu Thr
 660 665 670
 Gly Thr Leu Ser Leu Val Ser Gln Ser Ser Tyr Asn Leu Ser Phe
 675 680 685

<210> 799
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0797

<400> 799
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 Met Ser Lys Lys Ile Lys Val Leu Gly His Leu Thr Leu Cys Thr Leu
 20 25 30
 Phe Arg Gly Val Leu Cys Ala Ala Ala Leu Ser Asn Ile Gly Tyr Ala
 35 40 45
 Ser Thr Ser Gln Glu Ser Pro Tyr Gln Lys Ser Ile Glu Asp Trp Lys
 50 55 60
 Gly Tyr Thr Phe Thr Asp Leu Glu Leu Leu Ser Lys Glu Gly Trp Ser
 65 70 75 80
 Glu Ala His Ala Val Ser Gly Asn Gly Ser Arg Ile Val Gly Ala Ser
 85 90 95
 Gly Ala Gly Gln Gly Ser Val Thr Ala Val Ile Trp Glu Ser His Leu
 100 105 110
 Ile Lys His Leu Gly Thr Leu Gly Gly Glu Ala Ser Ser Ala Glu Gly
 115 120 125
 Ile Ser Lys Asp Gly Glu Val Val Val Gly Trp Ser Asp Thr Arg Glu
 130 135 140
 Gly Tyr Thr His Ala Phe Val Phe Asp Gly Arg Asp Met Lys Asp Leu
 145 150 155 160
 Gly Thr Leu Gly Ala Thr Tyr Ser Val Ala Arg Gly Val Ser Gly Asp
 165 170 175
 Gly Ser Ile Ile Val Gly Val Ser Ala Thr Ala Arg Gly Glu Asp Tyr
 180 185 190
 Gly Trp Gln Val Gly Val Lys Trp Glu Lys Gly Lys Ile Lys Gln Leu
 195 200 205
 Lys Leu Leu Pro Gln Gly Leu Trp Ser Glu Ala Asn Ala Ile Ser Glu
 210 215 220
 Asp Gly Thr Val Ile Val Gly Arg Gly Glu Ile Ser Arg Asn His Ile
 225 230 235 240
 Val Ala Val Lys Trp Asn Lys Asn Ala Val Tyr Ser Leu Gly Thr Leu
 245 250 255
 Gly Gly Ser Val Ala Ser Ala Glu Ala Ile Ser Ala Asn Gly Lys Val
 260 265 270
 Ile Val Gly Trp Ser Thr Thr Asn Asn Gly Glu Thr His Ala Phe Met
 275 280 285

His Lys Asp Glu Thr Met His Asp Leu Gly Thr Leu Gly Gly Gly Phe
 290 295 300
 Ser Val Ala Thr Gly Val Ser Ala Asp Gly Arg Ala Ile Val Gly Phe
 305 310 315 320
 Ser Ala Val Lys Thr Gly Glu Ile His Ala Phe Tyr Tyr Ala Glu Gly
 325 330 335
 Glu Met Glu Asp Leu Thr Thr Leu Gly Gly Glu Glu Ala Arg Val Phe
 340 345 350
 Asp Ile Ser Ser Glu Gly Asn Asp Ile Ile Gly Ser Ile Lys Thr Asp
 355 360 365
 Ala Gly Ala Glu Arg Ala Tyr Leu Phe His Ile His Lys
 370 375 380

<210> 800
 <211> 349
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0798

<400> 800
 Val Val Phe Glu Ile Ile Phe Val Val Arg Val Pro Met Lys Lys Thr
 1 5 10 15
 Cys Cys Gln Asn Tyr Arg Ser Ile Gly Val Val Phe Ser Val Val Leu
 20 25 30
 Phe Val Leu Thr Thr Gln Thr Leu Phe Ala Gly His Phe Ile Asp Ile
 35 40 45
 Gly Thr Ser Gly Leu Tyr Ser Trp Ala Arg Gly Val Ser Gly Asp Gly
 50 55 60
 Arg Val Val Val Gly Tyr Glu Gly Gly Asn Ala Phe Lys Tyr Val Asp
 65 70 75 80
 Gly Glu Lys Phe Leu Glu Gly Leu Val Pro Arg Ser Glu Ala Leu
 85 90 95
 Val Phe Lys Ala Ser Tyr Asp Gly Ser Val Ile Ile Gly Ile Ser Asp
 100 105 110
 Gln Asp Pro Ser Cys Arg Ala Val Lys Trp Val Asn Gly Ala Leu Val
 115 120 125
 Asp Leu Gly Ile Phe Ser Glu Gly Met Gln Ser Phe Ala Glu Gly Val
 130 135 140
 Ser Ser Asp Gly Lys Thr Ile Val Gly Cys Leu Tyr Ser Asp Asp Thr
 145 150 155 160
 Glu Thr Asn Phe Ala Val Lys Trp Asp Glu Thr Gly Met Val Val Leu
 165 170 175
 Pro Asn Leu Pro Glu Asp Arg His Ser Cys Ala Trp Asp Ala Ser Glu
 180 185 190
 Asp Gly Ser Val Ile Val Gly Asp Ala Met Gly Ser Glu Glu Ile Ala
 195 200 205
 Lys Ala Val Tyr Trp Lys Asp Gly Glu Gln His Leu Leu Ser Asn Ile
 210 215 220
 Pro Gly Ala Lys Arg Ser Ser Ala His Ala Val Ser Lys Asp Gly Ser
 225 230 235 240
 Phe Ile Val Gly Glu Phe Ile Ser Glu Glu Asn Glu Val His Ala Phe
 245 250 255
 Val Tyr His Asn Gly Val Ile Lys Asp Ile Gly Thr Leu Gly Gly Asp
 260 265 270
 Tyr Ser Val Ala Thr Gly Val Ser Arg Asp Gly Lys Val Ile Val Gly
 275 280 285
 His Ser Thr Arg Thr Asp Gly Glu Tyr Arg Ala Phe Lys Tyr Val Asp
 290 295 300

Gly Arg Met Ile Asp Leu Gly Thr Leu Gly Gly Ser Ala Ser Phe Ala
 305 310 315 320
 Phe Gly Val Ser Asp Asp Gly Lys Thr Ile Val Gly Lys Phe Glu Thr
 325 330 335
 Glu Leu Gly Glu Cys His Ala Phe Ile Tyr Leu Asp Asp
 340 345

<210> 801
 <211> 354
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0799

<400> 801
 Lys Arg Glu Glu Asn Met Ala Ala Ile Lys Gln Ile Leu Arg Ser Met
 1 5 10 15
 Leu Ser Gln Ser Ser Leu Trp Met Val Leu Phe Ser Leu Tyr Ser Leu
 20 25 30
 Ser Gly Tyr Cys Tyr Val Ile Thr Asp Lys Pro Glu Asp Asp Phe His
 35 40 45
 Ser Ser Ser Ala Val Lys Trp Asp His Trp Gly Lys Thr Thr Leu Ser
 50 55 60
 Arg Leu Ser Asn Lys Lys Ala Ser Ala Lys Ala Val Ser Gly Thr Gly
 65 70 75 80
 Ala Thr Thr Val Gly Phe Ile Lys Asp Thr Trp Ser Arg Thr Tyr Ala
 85 90 95
 Val Arg Trp Asn Tyr Trp Gly Thr Lys Glu Leu Pro Thr Ser Ser Trp
 100 105 110
 Val Lys Lys Ser Lys Ala Thr Gly Ile Ser Ser Asp Gly Ser Ile Ile
 115 120 125
 Ala Gly Ile Val Glu Asn Glu Leu Ser Gln Ser Phe Ala Val Thr Trp
 130 135 140
 Lys Asn Asn Glu Met Tyr Leu Leu Pro Ser Thr Trp Ala Val Gln Ser
 145 150 155 160
 Lys Ala Tyr Gly Ile Ser Ser Asp Gly Ser Val Ile Val Gly Ser Ala
 165 170 175
 Lys Asp Ala Trp Ser Arg Thr Phe Ala Val Lys Trp Thr Gly His Glu
 180 185 190
 Ala Gln Val Leu Pro Val Gly Trp Ala Val Lys Ser Val Ala Asn Ser
 195 200 205
 Val Ser Ala Asn Gly Ser Ile Ile Val Gly Ser Val Gln Asp Ala Ser
 210 215 220
 Gly Ile Leu Tyr Ala Val Lys Trp Glu Gly Asn Thr Ile Thr His Leu
 225 230 235 240
 Gly Thr Leu Gly Gly Tyr Ser Ala Ile Ala Lys Ala Val Ser Asn Asn
 245 250 255
 Gly Lys Val Ile Val Gly Arg Ser Glu Thr Tyr Tyr Gly Glu Val His
 260 265 270
 Ala Phe Cys His Lys Asn Gly Val Met Ser Asp Leu Gly Thr Leu Gly
 275 280 285
 Gly Ser Tyr Ser Ala Ala Lys Gly Val Ser Ala Thr Gly Lys Val Ile
 290 295 300
 Val Gly Met Ser Thr Thr Ala Asn Gly Lys Leu His Ala Phe Lys Tyr
 305 310 315 320
 Val Gly Gly Arg Met Ile Asp Leu Gly Glu Tyr Ser Trp Lys Glu Ala
 325 330 335
 Cys Ala Asn Ala Val Ser Ile Asp Gly Glu Ile Ile Val Gly Val Gln
 340 345 350
 Ser Glu

<210> 802
 <211> 434
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0800

<400> 802
 Arg Lys Glu Ile Lys Ile Met Phe Glu Ala Val Ile Ala Asp Ile Gln
 1 5 10 15
 Ala Arg Glu Ile Leu Asp Ser Arg Gly Tyr Pro Thr Leu His Val Lys
 20 25 30
 Val Thr Thr Ser Thr Gly Ser Val Gly Glu Ala Arg Val Pro Ser Gly
 35 40 45
 Ala Ser Thr Gly Lys Lys Glu Ala Leu Glu Phe Arg Asp Thr Asp Ser
 50 55 60
 Pro Arg Tyr Gln Gly Lys Gly Val Leu Gln Ala Val Lys Asn Val Lys
 65 70 75 80
 Glu Ile Leu Phe Pro Leu Val Lys Gly Cys Ser Val Tyr Glu Gln Ser
 85 90 95
 Leu Ile Asp Ser Leu Met Met Asp Ser Asp Gly Ser Pro Asn Lys Glu
 100 105 110
 Thr Leu Gly Ala Asn Ala Ile Leu Gly Val Ser Leu Ala Thr Ala His
 115 120 125
 Ala Ala Ala Ala Thr Leu Arg Pro Leu Tyr Arg Tyr Leu Gly Gly
 130 135 140
 Cys Phe Ala Cys Ser Leu Pro Cys Pro Met Met Asn Leu Ile Asn Gly
 145 150 155 160
 Gly Met His Ala Asp Asn Gly Leu Glu Phe Gln Glu Phe Met Ile Arg
 165 170 175
 Pro Ile Gly Ala Ser Ser Ile Lys Glu Ala Val Asn Met Gly Ala Asp
 180 185 190
 Val Phe His Thr Leu Lys Lys Leu Leu His Glu Arg Gly Leu Ser Thr
 195 200 205
 Gly Val Gly Asp Glu Gly Gly Phe Ala Pro Asn Leu Ala Ser Asn Glu
 210 215 220
 Glu Ala Leu Glu Leu Leu Leu Leu Ala Ile Glu Lys Ala Gly Phe Thr
 225 230 235 240
 Pro Gly Lys Asp Ile Ser Leu Ala Leu Asp Cys Ala Ala Ser Ser Phe
 245 250 255
 Tyr Asn Val Lys Thr Gly Thr Tyr Asp Gly Arg His Tyr Glu Glu Gln
 260 265 270
 Ile Ala Ile Leu Ser Asn Leu Cys Asp Arg Tyr Pro Ile Asp Ser Ile
 275 280 285
 Glu Asp Gly Leu Ala Glu Glu Asp Tyr Asp Gly Trp Ala Leu Leu Thr
 290 295 300
 Glu Val Leu Gly Glu Lys Val Gln Ile Val Gly Asp Asp Leu Phe Val
 305 310 315 320
 Thr Asn Pro Glu Leu Ile Leu Glu Gly Ile Ser Asn Gly Leu Ala Asn
 325 330 335
 Ser Val Leu Ile Lys Pro Asn Gln Ile Gly Thr Leu Thr Glu Thr Val
 340 345 350
 Tyr Ala Ile Lys Leu Ala Gln Met Ala Gly Tyr Thr Thr Ile Ile Ser
 355 360 365
 His Arg Ser Gly Glu Thr Thr Asp Thr Thr Ile Ala Asp Leu Ala Val
 370 375 380
 Ala Phe Asn Ala Gly Gln Ile Lys Thr Gly Ser Leu Ser Arg Ser Glu
 385 390 395 400
 Arg Val Ala Lys Tyr Asn Arg Leu Met Glu Ile Glu Glu Glu Leu Gly
 405 410 415

Ser Glu Ala Ile Phe Thr Asp Ser Asn Val Phe Ser Tyr Glu Asp Ser
 420 425 430
 Glu Glu

<210> 803
 <211> 661
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0801

<400> 803
 Ile Ile Phe Thr Met Thr Phe Gln Leu His Ala Pro Phe Ala Pro Cys
 1 5 10 15
 Gly Asp Gln Pro Glu Ala Ile Ala Arg Leu Ser Ala Gly Val Arg Asn
 20 25 30
 Gln Val Lys Ser Gln Val Leu Leu Gly Thr Thr Gly Ser Gly Lys Thr
 35 40 45
 Phe Thr Ile Ala Asn Val Val Ala Asn Val Asn Leu Pro Thr Leu Val
 50 55 60
 Leu Ala His Asn Lys Thr Leu Ala Ala Gln Leu Tyr Gln Glu Phe Arg
 65 70 75 80
 Glu Phe Phe Pro Asn Asn Ala Val Glu Tyr Phe Ile Ser Tyr Tyr Asp
 85 90 95
 Tyr Tyr Gln Pro Glu Ala Tyr Ile Ala Arg Ser Asp Thr Tyr Ile Glu
 100 105 110
 Lys Ser Leu Leu Ile Asn Asp Glu Ile Asp Lys Leu Arg Leu Ser Ala
 115 120 125
 Thr Arg Ser Ile Leu Glu Arg Arg Asp Thr Leu Ile Val Ser Ser Val
 130 135 140
 Ser Cys Ile Tyr Gly Ile Gly Ser Pro Glu Asn Tyr Thr Ser Met Ala
 145 150 155 160
 Leu Val Leu Glu Val Gly Lys Glu Tyr Pro Arg Asn Ile Leu Thr Ala
 165 170 175
 Gln Leu Val Lys Met His Tyr Gln Ala Ser Pro Ile Pro Gln Arg Ser
 180 185 190
 Ala Phe Arg Glu Arg Gly Ser Val Ile Asp Ile Phe Pro Ala Tyr Glu
 195 200 205
 Ser Glu Leu Ala Leu Arg Leu Glu Phe Leu Asn Asp Thr Leu Thr Ser
 210 215 220
 Ile Glu Tyr Ser Asp Pro Leu Thr Met Ile Pro Lys Glu Ser Val Pro
 225 230 235 240
 Ser Ala Thr Leu Tyr Pro Gly Ser His Tyr Val Ile Pro Glu Ala Ile
 245 250 255
 Arg Glu Gln Ala Ile Arg Thr Ile Gln Glu Glu Leu Glu Glu Arg Met
 260 265 270
 Ala Phe Phe Asp Asp Arg Pro Ile Glu Lys Asp Arg Ile Phe His Arg
 275 280 285
 Thr Thr His Asp Ile Glu Met Ile Lys Glu Ile Gly Phe Cys Lys Gly
 290 295 300
 Ile Glu Asn Tyr Ser Arg His Phe Thr Gly Ala Pro Pro Gly Ala Pro
 305 310 315 320
 Pro Thr Cys Leu Leu Asp Tyr Phe Pro Glu Asp Phe Leu Leu Ile Ile
 325 330 335
 Asp Glu Ser His Gln Thr Leu Pro Gln Ile Arg Ala Met Tyr Arg Gly
 340 345 350
 Asp Gln Ser Arg Lys Gln Ser Leu Val Glu Tyr Gly Phe Arg Leu Pro
 355 360 365

Ser Ala Phe Asp Asn Arg Pro Leu Thr Tyr Glu Glu Ala Gln Lys Tyr
 370 375 380
 Phe Arg Lys Val Ile Tyr Val Ser Ala Thr Pro Gly Asp Thr Glu Val
 385 390 395 400
 Gln Glu Ser Ser Gly His Ile Val Gln Gln Ile Ile Arg Pro Thr Gly
 405 410 415
 Ile Pro Asp Pro Met Pro Glu Ile Arg Pro Ala Thr Gly Gln Val Asp
 420 425 430
 Asp Leu Leu Glu Glu Ile Arg Leu Arg Leu Ser Gln Lys His Glu Lys
 435 440 445
 Ile Leu Val Ile Ser Ile Thr Lys Lys Leu Ala Glu Asp Met Ala Gly
 450 455 460
 Phe Leu Ser Glu Leu Glu Ile Pro Ala Ala Tyr Leu His Ser Gly Ile
 465 470 475 480
 Glu Thr Ala Glu Arg Thr Gln Ile Leu Thr Asp Leu Arg Ser Gly Val
 485 490 495
 Ile Asp Val Leu Ile Gly Val Asn Leu Leu Arg Glu Gly Leu Asp Leu
 500 505 510
 Pro Glu Val Ser Leu Val Ala Ile Leu Asp Ala Asp Lys Glu Gly Phe
 515 520 525
 Leu Arg Ser Thr Ser Ser Leu Ile Gln Phe Cys Gly Arg Ala Ala Arg
 530 535 540
 Asn Ile Asn Gly Lys Val Ile Phe Tyr Ala Asp Gln Lys Thr Arg Ser
 545 550 555 560
 Ile Glu Glu Thr Leu Arg Glu Thr Glu Arg Arg Gln Ile Gln Leu
 565 570 575
 Asp Tyr Asn Lys Glu His Asn Ile Val Pro Lys Pro Ile Ile Lys Ala
 580 585 590
 Ile Phe Ala Asn Pro Ile Leu Gln Thr Ser Lys Asp Ser Glu Ser Pro
 595 600 605
 Lys Glu Ser Gln Arg Pro Leu Ser Lys Glu Asp Leu Glu Glu Gln Ile
 610 615 620
 Lys Lys Tyr Glu Ala Leu Met Gln Arg Ala Ala Lys Glu Phe Arg Phe
 625 630 635 640
 Asn Glu Ala Ala Lys Tyr Arg Asp Ala Met Gln Ala Cys Lys Glu Gln
 645 650 655
 Leu Leu Tyr Leu Phe
 660

<210> 804
 <211> 351
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0802

<400> 804
 Ser Thr Ser Ile Ala Asp Val Met Asn Lys Lys Lys Arg Val Leu Thr
 1 5 10 15
 Gly Asp Arg Pro Thr Gly Lys Leu His Leu Gly His Trp Val Gly Ser
 20 25 30
 Ile Lys Asn Arg Leu Glu Leu Gln Asn Ser Pro Glu Tyr Asp Cys Phe
 35 40 45
 Phe Ile Ile Ala Asp Leu His Thr Leu Thr Thr Lys Ile Arg Lys Glu
 50 55 60
 Glu Val Leu Asp Val Asp Asn His Ile Tyr Glu Val Leu Ala Asp Trp
 65 70 75 80
 Leu Ser Val Gly Ile Asp Pro Thr Lys Ser Ile Ile Tyr Leu Gln Ser
 85 90 95

Ala Ile Pro Glu Ile Tyr Glu Leu His Leu Leu Phe Ser Met Leu Ile
 100 105 110
 Ser Ile Asn Arg Val Met Gly Ile Pro Ser Leu Lys Asp Met Ala Arg
 115 120 125
 Asn Ala Ser Ile Glu Glu Gly Ser Leu Ser Tyr Gly Leu Ile Gly Tyr
 130 135 140
 Pro Ile Leu Gln Ser Ala Asp Ile Leu Leu Ala Lys Ala Gln Phe Val
 145 150 155 160
 Pro Val Gly Lys Asp Asn Glu Ala His Val Glu Leu Thr Arg Asp Ile
 165 170 175
 Ala Arg Asn Phe Asn Arg Leu Tyr Gly Gln Val Phe Pro Glu Pro Glu
 180 185 190
 Val Leu Gln Gly Glu Leu Thr Ser Leu Val Gly Ile Asp Gly Gln Gly
 195 200 205
 Lys Met Ser Lys Ser Ala Asn Asn Ala Ile Tyr Leu Ser Asp Ser Asp
 210 215 220
 Ala Thr Ile Thr Glu Lys Val Arg Lys Met Tyr Thr Asp Pro Asn Arg
 225 230 235 240
 Ile Arg Ala Thr Thr Pro Gly Arg Val Glu Gly Asn Pro Leu Phe Ile
 245 250 255
 Tyr His Asp Ile Phe Asn Pro His Lys Asp Glu Val Glu Glu Phe Lys
 260 265 270
 Ala Arg Tyr Arg Gln Gly Cys Ile Lys Asp Ile Glu Val Lys Ala Arg
 275 280 285
 Leu Ala Glu Glu Leu Ile His Phe Leu Lys Pro Ile Lys Glu Arg Arg
 290 295 300
 Ser Glu Phe Leu Ser Lys Pro Leu Ala Leu Gln Asn Val Leu Glu Asp
 305 310 315 320
 Gly Thr His Lys Met Arg Glu Val Ala Lys Val Thr Met Glu Glu Val
 325 330 335
 His Asp Lys Phe Gly Phe Ser His Lys Trp Arg Ser Leu Leu Lys
 340 345 350

<210> 805
 <211> 185
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0803

<400> 805
 Phe Met Ala Ala Lys Thr Lys Thr Leu Glu Leu Glu Asp Asn Val Phe
 1 5 10 15
 Leu Leu Leu Glu Gly Asn Leu Lys Arg Ile Phe Ala Thr Pro Ile Gly
 20 25 30
 Tyr Thr Thr Phe Arg Glu Phe Gln Asn Val Val Phe Asn Cys Ala Asn
 35 40 45
 Gly Gln Gln Glu Ile Ala Asn Phe Phe Phe Glu Met Leu Ile Asn Gly
 50 55 60
 Lys Leu Thr Gln Glu Leu Ala Pro Gln Gln Lys Gln Ala Ala His Ser
 65 70 75 80
 Leu Ile Ala Glu Phe Met Met Pro Ile Arg Val Ala Lys Asp Ile His
 85 90 95
 Glu Arg Gly Glu Phe Ile Asn Phe Ile Thr Ser Asp Met Leu Thr Gln
 100 105 110
 Gln Glu Arg Cys Ile Phe Leu Asn Arg Leu Ala Arg Val Asp Gly Gln
 115 120 125
 Glu Phe Leu Leu Met Thr Asp Val Gln Asn Thr Cys His Leu Ile Arg
 130 135 140

His Leu Leu Ala Arg Leu Leu Glu Ala Gln Lys Asn Pro Val Gly Glu
 145 150 155 160
 Lys Asn Leu Gln Glu Ile Gln Glu Glu Ile Thr Ser Leu Lys Asn His
 165 170 175
 Phe Asp Glu Leu Thr Lys Ala Leu Gln
 180 185

<210> 806
 <211> 255
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0804

<400> 806
 Glu Ile Phe Ser Ser Met Gly Asn Leu Lys Thr Leu Leu Glu Ser Arg
 1 5 10 15
 Phe Lys Lys Asn Thr Pro Thr Lys Met Glu Ala Leu Ala Arg Lys Arg
 20 25 30
 Met Glu Gly Asp Pro Ser Pro Leu Ala Val Arg Leu Ser Asn Pro Thr
 35 40 45
 Leu Ser Ser Lys Glu Lys Glu Gln Leu Arg His Leu Leu Gln His Tyr
 50 55 60
 Asn Phe Arg Glu Gln Ile Glu Glu Pro Asp Leu Thr Gln Leu Cys Thr
 65 70 75 80
 Leu Ser Ala Glu Val Lys Gln Ile His His Gln Ser Val Leu Leu His
 85 90 95
 Gly Glu Arg Ile Thr Lys Val Arg Asp Leu Leu Lys Ser Tyr Arg Glu
 100 105 110
 Gly Ala Phe Ser Ser Trp Leu Leu Leu Thr Tyr Gly Asn Arg Gln Thr
 115 120 125
 Pro Tyr Asn Phe Leu Val Tyr Tyr Glu Leu Phe Thr Leu Leu Pro Glu
 130 135 140
 Pro Leu Lys Ile Glu Met Glu Lys Met Pro Arg Gln Ala Val Tyr Thr
 145 150 155 160
 Leu Ala Ser Arg Gln Gly Pro Gln Glu Lys Lys Glu Glu Ile Ile Arg
 165 170 175
 Asn Tyr Arg Gly Glu Arg Lys Ser Glu Leu Leu Asp Arg Ile Arg Lys
 180 185 190
 Glu Phe Pro Leu Val Glu Thr Asp Cys Arg Lys Thr Ser Pro Val Lys
 195 200 205
 Gln Ala Leu Ala Met Leu Thr Lys Gly Ser Gln Ile Leu Thr Lys Cys
 210 215 220
 Thr Ser Leu Ser Ser Asp Glu Gln Ile Ile Leu Glu Lys Leu Ile Lys
 225 230 235 240
 Lys Leu Glu Lys Val Lys Ser Asn Leu Phe Pro Asp Thr Lys Val
 245 250 255

<210> 807
 <211> 260
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0805

<400> 807
 Gly Tyr Ala Ser Arg Met Lys Thr Ile Ala Val Asn Ser Phe Lys Gly
 1 5 10 15

Gly Thr Ala Lys Thr Ser Thr Thr Leu His Leu Gly Ala Ala Leu Ala
 20 25 30
 Gln Tyr His Gln Ala Arg Val Leu Leu Ile Asp Phe Asp Ala Gln Ala
 35 40 45
 Asn Leu Thr Ser Gly Leu Gly Leu Asp Pro Asp Cys Tyr Asp Ser Leu
 50 55 60
 Ala Val Val Leu Gln Gly Glu Lys Glu Ile Gln Glu Val Ile Arg Pro
 65 70 75 80
 Ile Gln Asp Thr Gln Leu Asp Leu Ile Pro Ala Asp Thr Trp Leu Glu
 85 90 95
 Arg Ile Glu Val Ser Gly Asn Leu Ala Ala Asp Arg Tyr Ser His Glu
 100 105 110
 Arg Leu Lys Tyr Val Leu Gly Ser Val Gln Asp Lys Tyr Asp Tyr Val
 115 120 125
 Ile Ile Asp Thr Pro Pro Ser Leu Cys Trp Leu Thr Glu Ser Ala Leu
 130 135 140
 Ile Ala Ala Asp Tyr Ala Leu Ile Cys Ala Thr Pro Glu Phe Tyr Ser
 145 150 155 160
 Val Lys Gly Leu Glu Arg Leu Ala Gly Phe Ile Gln Gly Ile Ser Ala
 165 170 175
 Arg His Pro Leu Thr Ile Leu Gly Val Ala Leu Ser Phe Trp Asn Cys
 180 185 190
 Arg Gly Lys Asn Asn Ser Ala Phe Ala Glu Leu Ile His Lys Thr Phe
 195 200 205
 Pro Gly Lys Leu Leu Asn Thr Lys Ile Arg Arg Asp Ile Thr Val Ser
 210 215 220
 Glu Ala Ala Ile His Gly Lys Pro Val Phe Ala Thr Ser Pro Ser Ala
 225 230 235 240
 Arg Ala Ser Glu Asp Tyr Phe Asn Leu Thr Lys Glu Leu Leu Ile Leu
 245 250 255
 Leu Arg Asp Ile
 260

<210> 808
 <211> 650
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0806

<400> 808
 Asn Ala Asn Asn Glu Ser Pro Pro Asn Met Glu Ala Trp Asn Lys Met
 1 5 10 15
 Ile Gln Val Thr Cys Asp Gln Lys Asn Tyr Glu Val Leu Glu Gly Thr
 20 25 30
 Thr Ala Ala Glu Leu Ala Lys Gln Leu Lys Asn Ser His Gln Phe Ile
 35 40 45
 Gly Val Leu Ile Asn Glu Arg Pro Arg Asp Leu Ser Thr His Leu Asn
 50 55 60
 Glu Gly Asp Thr Leu Val Phe Leu Thr Ser Glu Asp Pro Glu Gly Arg
 65 70 75 80
 Glu Ile Phe Leu His Thr Ser Ala His Leu Leu Ala Gln Ala Val Leu
 85 90 95
 Arg Leu Trp Pro Asp Ala Ile Pro Thr Ile Gly Pro Val Ile Asp His
 100 105 110
 Gly Phe Tyr Asp Phe Ala Asn Leu Ser Ile Ser Glu Ser Asp Phe
 115 120 125
 Pro Leu Ile Glu Asp Thr Val Lys Gln Ile Val Asp Glu Lys Leu Ala
 130 135 140

Ile	Ser	Arg	Phe	Thr	Tyr	Gly	Asp	Lys	Gln	Gln	Ala	Leu	Ala	Gln	Phe
145					150					155					160
Pro	Gln	Asn	Pro	Phe	Lys	Thr	Glu	Leu	Ile	Arg	Glu	Leu	Pro	Glu	Asn
				165					170					175	
Glu	Glu	Ile	Ser	Ala	Tyr	Ser	Gln	Gly	Glu	Phe	Phe	Asp	Leu	Cys	Arg
			180					185					190		
Gly	Pro	His	Leu	Pro	Ser	Thr	Ala	His	Val	Lys	Ala	Phe	Lys	Val	Leu
		195					200					205			
Arg	Thr	Ser	Ala	Ala	Tyr	Trp	Arg	Gly	Asp	Pro	Ser	Arg	Glu	Ser	Leu
	210					215					220				
Val	Arg	Ile	Tyr	Gly	Thr	Ser	Phe	Pro	Thr	Ser	Lys	Glu	Leu	Arg	Ala
225					230					235					240
His	Leu	Glu	Gln	Ile	Glu	Glu	Ala	Lys	Lys	Arg	Asp	His	Arg	Val	Leu
			245						250					255	
Gly	Ala	Lys	Leu	Asp	Leu	Phe	Ser	Gln	Gln	Glu	Ser	Ser	Pro	Gly	Met
		260						265					270		
Pro	Phe	Phe	His	Pro	Arg	Gly	Met	Ile	Val	Trp	Asp	Ala	Leu	Ile	Arg
	275						280					285			
Tyr	Trp	Lys	Gln	Leu	His	Thr	Ala	Ala	Gly	Tyr	Lys	Glu	Ile	Leu	Thr
	290					295					300				
Pro	Gln	Leu	Met	Asn	Arg	Gln	Leu	Trp	Glu	Val	Ser	Gly	His	Trp	Asp
305				310						315					320
Asn	Tyr	Lys	Ala	Asn	Met	Tyr	Thr	Leu	Gln	Ile	Asp	Asp	Glu	Asp	Tyr
			325						330					335	
Ala	Ile	Lys	Pro	Met	Asn	Cys	Pro	Gly	Cys	Met	Leu	Tyr	Tyr	Lys	Thr
		340						345					350		
Arg	Leu	His	Ser	Tyr	Lys	Glu	Phe	Pro	Leu	Arg	Val	Ala	Glu	Val	Gly
	355						360					365			
His	Val	His	Arg	Gln	Glu	Ala	Ser	Gly	Ala	Leu	Ser	Gly	Leu	Met	Arg
	370					375						380			
Val	Arg	Ala	Phe	His	Gln	Asp	Asp	Ala	His	Val	Phe	Leu	Thr	Pro	Glu
385					390					395					400
Gln	Val	Glu	Glu	Glu	Thr	Leu	Asn	Ile	Leu	Gln	Leu	Val	Ser	Thr	Leu
			405						410					415	
Tyr	Gly	Thr	Phe	Gly	Leu	Glu	Tyr	His	Leu	Glu	Leu	Ser	Thr	Arg	Pro
		420						425					430		
Glu	Lys	Asp	Thr	Ile	Gly	Asp	Asp	Ser	Leu	Trp	Glu	Leu	Ala	Thr	Asp
	435					440						445			
Ala	Leu	Asn	Arg	Ala	Leu	Val	Gln	Ser	Gly	Thr	Pro	Phe	Ile	Val	Arg
	450					455					460				
Pro	Gly	Glu	Gly	Ala	Phe	Tyr	Gly	Pro	Lys	Ile	Asp	Ile	His	Val	Lys
465				470						475					480
Asp	Ala	Ile	Gln	Arg	Thr	Trp	Gln	Cys	Gly	Thr	Ile	Gln	Leu	Asp	Met
			485						490					495	
Phe	Leu	Pro	Glu	Arg	Phe	Glu	Leu	Glu	Tyr	Thr	Thr	Ala	Gln	Gly	Thr
		500						505					510		
Lys	Ser	Val	Pro	Val	Met	Leu	His	Arg	Ala	Leu	Phe	Gly	Ser	Ile	Glu
	515						520					525			
Arg	Phe	Leu	Gly	Ile	Leu	Ile	Glu	Asn	Phe	Lys	Gly	Arg	Phe	Pro	Leu
	530					535					540				
Trp	Leu	Ser	Pro	Glu	Gln	Val	Arg	Ile	Ile	Thr	Val	Ala	Asp	Arg	His
545					550					555					560
Ile	Pro	Arg	Ala	Lys	Glu	Leu	Glu	Glu	Ala	Trp	Lys	Arg	Leu	Gly	Leu
			565						570					575	
Val	Val	Thr	Leu	Asp	Asp	Ser	Ser	Glu	Ser	Val	Ser	Lys	Lys	Ile	Arg
		580						585					590		
Asn	Ala	Gln	Asn	Met	Gln	Val	Asn	Tyr	Met	Ile	Thr	Leu	Gly	Asp	His
	595						600					605			
Glu	Ile	Asn	Glu	Asn	Val	Leu	Ala	Val	Arg	Thr	Arg	Asp	Asn	Arg	Val
	610					615					620				

Ile Asn Asp Val Ser Val Glu Arg Phe Leu Asn Thr Ile Leu Glu Glu
625 630 635 640
Lys Asn Ser Leu Ser Leu Thr Ala Leu Leu
645 650

<210> 809
<211> 310
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0807

<400> 809
Thr Leu Gln Thr Gly Leu His Met Ser Leu Phe Leu Val Phe Leu Thr
1 5 10 15
Ala Phe Ile Trp Ser Ser Ser Phe Ala Leu Ser Lys Leu Val Met Asn
20 25 30
Ala Ser Ala Pro Ile Phe Ala Thr Gly Ala Arg Met Val Ile Ala Gly
35 40 45
Ala Ile Leu Ala Leu Ala Ala Trp Phe Arg Gly Gly Phe Val Gly Ile
50 55 60
Ser Lys Lys Ile Phe Leu Tyr Ile Val Leu Leu Ala Leu Thr Gly Phe
65 70 75 80
Tyr Leu Thr Asn Ile Phe Glu Phe Ile Gly Leu Gln Ser Leu Ser Ser
85 90 95
Ser Lys Thr Cys Phe Ile Tyr Gly Leu Ser Pro Leu Met Ser Ala Leu
100 105 110
Phe Ser Tyr Ile Gln Leu Lys Glu Lys Val Thr Leu Lys Lys Val Leu
115 120 125
Gly Leu Ser Leu Gly Leu Val Ser Tyr Ile Cys Tyr Leu Thr Phe Gly
130 135 140
Gly Gly Gly Asp Asp Ser Gln Pro Trp Thr Trp Gln Ile Gly Leu Pro
145 150 155 160
Glu Leu Leu Ile Leu Gly Ala Ala Ser Leu Ala Ser Phe Gly Trp Thr
165 170 175
Leu Leu Arg Gln Ile Glu Lys Gln Ser Thr Leu Ser Val Thr Ala Ile
180 185 190
Asn Ala Tyr Ala Met Leu Ile Ala Gly Met Leu Ser Ile Met His Ser
195 200 205
Ala Val Val Glu Pro Trp Arg Pro Leu Pro Val Gln Asp Ile Ser Gln
210 215 220
Phe Leu Tyr Ala Thr Leu Ala Leu Val Val Ile Ser Asn Leu Ile Cys
225 230 235 240
Tyr Asn Leu Tyr Ala Lys Leu Leu Arg Lys Tyr Ser Ser Thr Phe Leu
245 250 255
Ser Phe Cys Asn Leu Val Met Pro Leu Tyr Ser Gly Phe Tyr Gly Trp
260 265 270
Ile Leu Leu Gly Glu Lys Gly Val Ser Leu Gly Leu Val Leu Ala Val
275 280 285
Ala Phe Met Val Ala Gly Cys Arg Leu Ile Tyr His Glu Glu Phe Arg
290 295 300
Gln Gly Tyr Ile Val Ser
305 310

<210> 810
<211> 481
<212> PRT
<213> Chlamydia pneumoniae

<220>

<223> CPn0808

<400> 810

Leu Lys Lys Leu Pro Ser Trp Ala Leu Lys Ser Leu Lys Arg Met Pro
1 5 10 15
Gln Ser Ala Glu Pro Ser Leu Ala His Ile Lys Pro Ile Ile Phe Lys
20 25 30
Gly Ala Cys Ile Ala Met Thr Ser Gly Val Ser Gly Ser Ser Ser Gln
35 40 45
Asp Pro Thr Leu Ala Ala Gln Leu Ala Gln Ser Ser Gln Lys Ala Gly
50 55 60
Asn Ala Gln Ser Gly His Asp Thr Lys Asn Val Thr Lys Gln Gly Ala
65 70 75 80
Gln Ala Glu Val Ala Ala Gly Gly Phe Glu Asp Leu Ile Gln Asp Ala
85 90 95
Ser Ala Gln Ser Thr Gly Lys Lys Glu Ala Thr Ser Ser Thr Thr Lys
100 105 110
Ser Ser Lys Gly Glu Lys Ser Glu Lys Ser Gly Lys Ser Lys Ser Ser
115 120 125
Thr Ser Val Ala Ser Ala Ser Glu Thr Ala Thr Ala Gln Ala Val Gln
130 135 140
Gly Pro Lys Gly Leu Arg Gln Asn Asn Tyr Asp Ser Pro Ser Leu Pro
145 150 155 160
Thr Pro Glu Ala Gln Thr Ile Asn Gly Ile Val Leu Lys Lys Gly Met
165 170 175
Gly Thr Leu Ala Leu Leu Gly Leu Val Met Thr Leu Met Ala Asn Ala
180 185 190
Ala Gly Glu Ser Trp Lys Ala Ser Phe Gln Ser Gln Asn Gln Ala Ile
195 200 205
Arg Ser Gln Val Glu Ser Ala Pro Ala Ile Gly Glu Ala Ile Lys Arg
210 215 220
Gln Ala Asn His Gln Ala Ser Ala Thr Glu Ala Gln Ala Lys Gln Ser
225 230 235 240
Leu Ile Ser Gly Ile Val Asn Ile Val Gly Phe Thr Val Ser Val Gly
245 250 255
Ala Gly Ile Phe Ser Ala Ala Lys Gly Ala Thr Ser Ala Leu Lys Ser
260 265 270
Ala Ser Phe Ala Lys Glu Thr Gly Ala Ser Ala Ala Gly Gly Ala Ala
275 280 285
Ser Lys Ala Leu Thr Ser Ala Ser Ser Ser Val Gln Gln Thr Met Ala
290 295 300
Ser Thr Ala Lys Ala Ala Thr Thr Ala Ala Ser Ser Ala Gly Ser Ala
305 310 315 320
Ala Thr Lys Ala Ala Ala Asn Leu Thr Asp Asp Met Ala Ala Ala Ala
325 330 335
Ser Lys Met Ala Ser Asp Gly Ala Ser Lys Ala Ser Gly Gly Leu Phe
340 345 350
Gly Glu Val Leu Asn Lys Pro Asn Trp Ser Glu Lys Val Ser Arg Gly
355 360 365
Met Asn Val Val Lys Thr Gln Gly Ala Arg Val Ala Ser Phe Ala Gly
370 375 380
Asn Ala Leu Ser Ser Ser Met Gln Met Ser Gln Leu Met His Gly Leu
385 390 395 400
Thr Ala Ala Val Glu Gly Leu Ser Ala Gly Gln Thr Gly Ile Glu Val
405 410 415
Ala His His Gln Arg Leu Ala Gly Gln Ala Glu Ala Gln Ala Glu Val
420 425 430
Leu Lys Gln Met Ser Ser Val Tyr Gly Gln Gln Ala Gly Gln Ala Gly
435 440 445

Gln Leu Gln Glu Gln Ala Met Gln Ser Phe Asn Thr Ala Leu Gln Thr
 450 455 460
 Leu Gln Asn Ile Ala Asp Ser Gln Thr Gln Thr Thr Ser Ala Ile Phe
 465 470 475 480
 Asn

<210> 811
 <211> 496
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0809

<400> 811
 Asp Thr Asn Met Ser Ile Ser Ser Ser Ser Gly Pro Asp Asn Gln Lys
 1 5 10 15
 Asn Ile Met Ser Gln Val Leu Thr Ser Thr Pro Gln Gly Val Pro Gln
 20 25 30
 Gln Asp Lys Leu Ser Gly Asn Glu Thr Lys Gln Ile Gln Gln Thr Arg
 35 40 45
 Gln Gly Lys Asn Thr Glu Met Glu Ser Asp Ala Thr Ile Ala Gly Ala
 50 55 60
 Ser Gly Lys Asp Lys Thr Ser Ser Thr Thr Lys Thr Glu Thr Ala Pro
 65 70 75 80
 Gln Gln Gly Val Ala Ala Gly Lys Glu Ser Ser Glu Ser Gln Lys Ala
 85 90 95
 Gly Ala Asp Thr Gly Val Ser Gly Ala Ala Ala Thr Thr Ala Ser Asn
 100 105 110
 Thr Ala Thr Lys Ile Ala Met Gln Thr Ser Ile Glu Glu Ala Ser Lys
 115 120 125
 Ser Met Glu Ser Thr Leu Glu Ser Leu Gln Ser Leu Ser Ala Ala Gln
 130 135 140
 Met Lys Glu Val Glu Ala Val Val Val Ala Ala Leu Ser Gly Lys Ser
 145 150 155 160
 Ser Gly Ser Ala Lys Leu Glu Thr Pro Glu Leu Pro Lys Pro Gly Val
 165 170 175
 Thr Pro Arg Ser Glu Val Ile Glu Ile Gly Leu Ala Leu Ala Lys Ala
 180 185 190
 Ile Gln Thr Leu Gly Glu Ala Thr Lys Ser Ala Leu Ser Asn Tyr Ala
 195 200 205
 Ser Thr Gln Ala Gln Ala Asp Gln Thr Asn Lys Leu Gly Leu Glu Lys
 210 215 220
 Gln Ala Ile Lys Ile Asp Lys Glu Arg Glu Glu Tyr Gln Glu Met Lys
 225 230 235 240
 Ala Ala Glu Gln Lys Ser Lys Asp Leu Glu Gly Thr Met Asp Thr Val
 245 250 255
 Asn Thr Val Met Ile Ala Val Ser Val Ala Ile Thr Val Ile Ser Ile
 260 265 270
 Val Ala Ala Ile Phe Thr Cys Gly Ala Gly Leu Ala Gly Leu Ala Ala
 275 280 285
 Gly Ala Ala Val Gly Ala Ala Ala Ala Gly Gly Ala Ala Gly Ala Ala
 290 295 300
 Ala Ala Thr Thr Val Ala Thr Gln Ile Thr Val Gln Ala Val Val Gln
 305 310 315 320
 Ala Val Lys Gln Ala Val Ile Thr Ala Val Arg Gln Ala Ile Thr Ala
 325 330 335
 Ala Ile Lys Ala Ala Val Lys Ser Gly Ile Lys Ala Phe Ile Lys Thr
 340 345 350

Leu Val Lys Ala Ile Ala Lys Ala Ile Ser Lys Gly Ile Ser Lys Val
 355 360 365
 Phe Ala Lys Gly Thr Gln Met Ile Ala Lys Asn Phe Pro Lys Leu Ser
 370 375 380
 Lys Val Ile Ser Ser Leu Thr Ser Lys Trp Val Thr Val Gly Val Gly
 385 390 395 400
 Val Val Val Ala Ala Pro Ala Leu Gly Lys Gly Ile Met Gln Met Gln
 405 410 415
 Leu Ser Glu Met Gln Gln Asn Val Ala Gln Phe Gln Lys Glu Val Gly
 420 425 430
 Lys Leu Gln Ala Ala Ala Asp Met Ile Ser Met Phe Thr Gln Phe Trp
 435 440 445
 Gln Gln Ala Ser Lys Ile Ala Ser Lys Gln Thr Gly Glu Ser Asn Glu
 450 455 460
 Met Thr Gln Lys Ala Thr Lys Leu Gly Ala Gln Ile Leu Lys Ala Tyr
 465 470 475 480
 Ala Ala Ile Ser Gly Ala Ile Ala Gly Ala His Lys Thr Asn Asn Phe
 485 490 495

<210> 812
 <211> 123
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0810

 <400> 812
 Gly Glu Ile Met Asn Lys Lys Pro Lys Lys Thr Lys Lys Ala Val Gln
 1 5 10 15
 Ser Lys Ala Ala Pro Val Lys Arg Val Pro Glu Glu Ser Gln Glu Ala
 20 25 30
 Ala Ile Gln Gln Leu Glu Leu Ala Val Ser Asp Leu Tyr Lys Glu Leu
 35 40 45
 Pro Leu Ala Gln Thr Phe Ala Ser Leu Thr Asp Lys Asn Gln Ile Asn
 50 55 60
 Ser Ile Ile Ala Ala Leu Ser Gly Thr Leu Glu Ser Leu His Leu Glu
 65 70 75 80
 Glu Leu Thr Gln Gly Leu Phe Pro Ser Ala Gln Glu Asp Ala Asn Phe
 85 90 95
 Ala Lys Glu Leu Ser Ser Val Val His Gly Leu Lys Asn Leu Thr Thr
 100 105 110
 Val Val Asn Lys Gln Met Val Lys Gly Ala Glu
 115 120

<210> 813
 <211> 242
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0811

 <400> 813
 Ile Gln Asn Asn Phe Ile Leu Gly Ile Arg Ser Met Ser Lys Pro Ser
 1 5 10 15
 Pro Arg Asn Ala Asn Gln Pro Gln Lys Pro Ser Ala Ser Phe Asn Lys
 20 25 30
 Lys Thr Arg Ser Arg Leu Ala Glu Leu Ala Ala Gln Lys Lys Ala Lys
 35 40 45

Ala	Asp	Asp	Leu	Glu	Gln	Val	His	Pro	Val	Pro	Thr	Glu	Glu	Glu	Ile
50						55					60				
Lys	Lys	Ala	Leu	Gly	Asn	Ile	Phe	Glu	Gly	Leu	Ser	Asn	Gly	Leu	Asp
65					70					75					80
Leu	Gln	Gln	Ile	Leu	Gly	Leu	Ser	Asp	Tyr	Leu	Leu	Glu	Glu	Ile	Tyr
				85					90					95	
Thr	Val	Ala	Tyr	Thr	Phe	Tyr	Ser	Gln	Gly	Lys	Tyr	Asn	Glu	Ala	Val
			100					105					110		
Gly	Leu	Phe	Gln	Leu	Leu	Ala	Ala	Ala	Gln	Pro	Gln	Asn	Tyr	Lys	Tyr
		115					120					125			
Met	Leu	Gly	Leu	Ser	Ser	Cys	Tyr	His	Gln	Leu	His	Leu	Tyr	Asn	Glu
	130					135					140				
Ala	Ala	Phe	Gly	Phe	Phe	Leu	Ala	Phe	Asp	Ala	Gln	Pro	Asp	Asn	Pro
145					150				155						160
Ile	Pro	Pro	Tyr	Tyr	Ile	Ala	Asp	Ser	Leu	Leu	Lys	Leu	Gln	Gln	Pro
			165					170					175		
Glu	Glu	Ser	Asn	Asn	Phe	Leu	Asp	Val	Thr	Met	Asp	Ile	Cys	Gly	Asn
			180				185						190		
Asn	Pro	Glu	Phe	Lys	Ile	Leu	Lys	Glu	Arg	Cys	Gln	Ile	Met	Lys	Gln
		195					200					205			
Ser	Ile	Glu	Lys	Gln	Met	Ala	Gly	Glu	Thr	Lys	Lys	Ala	Pro	Thr	Lys
	210					215					220				
Lys	Pro	Ala	Gly	Lys	Ser	Lys	Thr	Thr	Thr	Asn	Lys	Lys	Ser	Gly	Lys
225					230					235					240
Lys	Arg														

<210> 814
 <211> 594
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0812

<400> 814

Gly	Ile	Leu	Ile	Cys	Trp	Leu	Gly	Asn	Leu	Thr	Lys	Ala	Pro	Met	Ser
1				5					10					15	
Thr	Arg	Arg	Pro	Ile	Gln	Leu	Leu	Asp	Pro	Leu	Thr	Ile	Asn	Gln	Ile
			20					25					30		
Ala	Ala	Gly	Glu	Val	Ile	Glu	Asn	Ser	Val	Ser	Val	Val	Lys	Glu	Leu
		35					40					45			
Ile	Glu	Asn	Ser	Leu	Asp	Ala	Gly	Ala	Asp	Glu	Ile	Glu	Ile	Glu	Thr
	50					55				60					
Leu	Gly	Gly	Gly	Gln	Gly	Ala	Ile	Ile	Ile	Arg	Asp	Asn	Gly	Cys	Gly
65				70					75					80	
Phe	Arg	Ala	Glu	Asp	Ile	Pro	Ile	Ala	Leu	Gln	Arg	His	Ala	Thr	Ser
			85					90					95		
Lys	Ile	Arg	Glu	Phe	Ser	Asp	Ile	Phe	Ser	Leu	Asn	Ser	Phe	Gly	Phe
			100					105					110		
Arg	Gly	Glu	Ala	Leu	Pro	Ser	Ile	Ala	Ser	Ile	Ser	Lys	Met	Glu	Ile
		115					120					125			
Gln	Ser	Ser	Ile	Glu	Gly	Asp	Glu	Gly	Val	Arg	Thr	Val	Ile	His	Gly
	130					135				140					
Gly	Asp	Ile	Val	Ser	Cys	Glu	Pro	Cys	Ala	Arg	Gln	Leu	Gly	Thr	Thr
145					150				155					160	
Val	Ile	Val	Asn	Ser	Leu	Phe	Tyr	Asn	Val	Pro	Val	Arg	Arg	Gly	Phe
			165					170					175		
Gln	Lys	Ser	Met	Gln	Ser	Asp	Arg	Leu	Gly	Ile	Arg	Lys	Leu	Ile	Glu
			180					185					190		

Asn	Arg	Ile	Leu	Ser	Thr	Ala	Asn	Ile	Gly	Trp	Ser	Trp	Ile	Ser	Glu
	195						200					205			
Gly	His	His	Glu	Ile	Gln	Ile	Ala	Lys	Gln	Gln	Gly	Phe	Gln	Glu	Arg
	210					215				220					
Val	Ala	Tyr	Val	Met	Gly	Asp	His	Phe	Met	Gln	Asp	Ala	Leu	Thr	Ile
225					230					235					240
Asp	Lys	Glu	Ala	Asn	Gly	Val	Arg	Ile	Val	Gly	Val	Leu	Gly	Ser	Pro
				245					250					255	
Ser	Phe	His	Arg	Pro	Thr	Arg	Gln	Gly	Gln	Lys	Ile	Phe	Ile	Asn	Asp
			260					265					270		
Arg	Pro	Ile	Glu	Ser	Leu	Phe	Ile	Ser	Lys	Lys	Val	Gly	Asp	Ala	Tyr
		275					280					285			
Ala	Leu	Leu	Leu	Pro	Leu	His	Arg	Tyr	Pro	Val	Phe	Val	Leu	Lys	Leu
	290					295					300				
Tyr	Leu	Pro	Ser	Ser	Trp	Cys	Asp	Phe	Asn	Val	His	Pro	Gln	Lys	Ile
305					310					315					320
Glu	Ala	Arg	Ile	Leu	Lys	Glu	Glu	Leu	Val	Gly	Asp	Cys	Ile	Lys	Glu
				325					330					335	
Ala	Ile	Val	Glu	Thr	Leu	Ala	Cys	Pro	Pro	Gly	Ile	Leu	Cys	Arg	Thr
			340					345					350		
His	Gln	Glu	Ile	Glu	Glu	Ser	Asp	Ser	Val	Pro	Leu	Pro	Met	Phe	Arg
		355					360					365			
Met	Leu	Glu	Thr	Ser	Asp	Val	Gln	Glu	Glu	Glu	Ser	Val	Glu	Phe	Asp
	370					375					380				
Gln	Asn	Leu	Phe	Ala	Tyr	Ser	Ser	Glu	Asp	Val	Ser	Leu	Glu	Lys	Gln
385					390					395					400
Glu	Tyr	Thr	Ser	Arg	Gly	Pro	Lys	Ser	Gln	Met	Asp	Trp	Ile	Tyr	Ser
				405					410					415	
Ser	Asp	Val	Arg	Phe	Leu	Thr	Ser	Leu	Gly	Arg	Val	Val	Leu	Ala	Glu
			420					425					430		
Asp	Leu	Glu	Gly	Val	His	Ile	Ile	Phe	Thr	Ala	Ala	Ala	Arg	Lys	His
		435					440					445			
Leu	Phe	Phe	Leu	Ser	Leu	Met	Gln	Glu	Asn	Ser	Arg	Met	Tyr	Gln	Ser
	450					455					460				
Gln	Ala	Leu	Leu	Ile	Pro	Leu	Arg	Leu	Gln	Val	Thr	Pro	Glu	Glu	Ala
465					470					475					480
Phe	Phe	Phe	Ser	His	His	Gly	Arg	Thr	Leu	Cys	Asp	Leu	Gly	Ile	Glu
				485					490					495	
Ile	Ser	Gln	Val	Gly	Pro	Cys	Val	Phe	Ser	Ile	Glu	Ser	Thr	Pro	Thr
			500					505					510		
Val	Ile	Gly	Glu	Glu	Glu	Leu	Lys	Glu	Trp	Leu	Leu	Leu	Leu	Ala	Ala
		515					520						525		
Arg	Gly	Ser	Thr	Asp	Ile	Asn	Ser	Glu	Ala	Leu	Thr	Ala	Leu	Met	Lys
	530					535						540			
Glu	Thr	Leu	Thr	Gln	Ala	Thr	Phe	Ser	Lys	His	Gln	His	Val	Phe	Asp
545					550					555					560
Val	Ser	Trp	Leu	Lys	Leu	Leu	Trp	Ser	Val	Gly	Lys	Pro	Glu	Lys	Gly
				565					570					575	
Phe	Asp	Gly	Ala	Arg	Ile	Arg	Arg	Leu	Ile	Leu	Asp	Ser	Asp	Phe	Met
			580					585					590		
Glu	Gly														

<210> 815
 <211> 364
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0813

<400> 815

Thr	Leu	Ile	Leu	Trp	Lys	Asp	Asn	His	Met	Ser	His	Asp	Arg	Ile	Leu
1				5					10					15	
Arg	Ala	Gln	Arg	Ala	Leu	Ser	Glu	His	Asn	Leu	Asp	Ala	Ile	Leu	Val
			20					25					30		
Glu	Lys	Ser	Glu	Asp	Leu	Ala	Tyr	Phe	Leu	His	Asp	Glu	Ala	Ile	Ala
		35					40					45			
Gly	Ile	Leu	Leu	Ile	Gly	Gln	Gln	Glu	Val	Met	Phe	Phe	Val	Tyr	Arg
	50				55					60					
Met	Asp	Lys	Asp	Leu	Tyr	Ser	His	Ile	Gln	Arg	Val	Pro	Leu	Thr	Phe
65				70						75				80	
Leu	Thr	Gln	Asp	Val	Val	Ala	Asp	Leu	Ser	Leu	Tyr	Val	Gln	Lys	Gln
			85					90						95	
Arg	Tyr	Gln	Lys	Ile	Gly	Phe	Asp	Ser	Ala	Ser	Thr	Val	Tyr	His	Lys
			100				105						110		
Phe	Ala	Gln	Arg	Gln	Val	Leu	Pro	Cys	Leu	Trp	Glu	Pro	Leu	Glu	Cys
	115					120						125			
Phe	Thr	Glu	Lys	Ile	Arg	Ser	Ile	Lys	Ser	Glu	Glu	Glu	Ile	Arg	Arg
	130				135						140				
Met	Gln	Glu	Ala	Ala	Ala	Leu	Gly	Ser	Ala	Gly	Tyr	Asp	Tyr	Val	Leu
145				150						155					160
Thr	Leu	Leu	Arg	Glu	Gly	Ile	Thr	Glu	Lys	Glu	Val	Val	Arg	Gln	Leu
			165					170						175	
Arg	Ala	Phe	Trp	Ala	Glu	Ala	Gly	Ala	Glu	Gly	Pro	Ser	Phe	Pro	Pro
		180					185						190		
Ile	Ile	Ala	Phe	Gly	Glu	His	Ser	Ala	Phe	Pro	His	Ser	Ile	Pro	Thr
	195					200						205			
Asp	Arg	Pro	Leu	Lys	Lys	Gly	Asp	Ile	Val	Leu	Ile	Asp	Ile	Gly	Val
	210					215						220			
Leu	Leu	Asn	Gly	Tyr	Cys	Ser	Asp	Met	Thr	Arg	Met	Thr	Ala	Leu	Gly
225					230					235					240
Thr	Pro	His	Pro	Lys	Leu	Leu	Glu	Ser	Tyr	Pro	Val	Val	Val	Glu	Ala
			245					250						255	
Gln	Lys	Arg	Ala	Met	Ala	Leu	Cys	Lys	Glu	Gly	Val	Leu	Trp	Gly	Asp
		260						265					270		
Ile	Asp	Ala	Glu	Ala	Val	Arg	Val	Leu	Arg	Glu	His	His	Leu	Asp	Thr
	275					280						285			
Tyr	Phe	Ile	His	Gly	Ile	Gly	His	Gly	Val	Gly	Arg	His	Ile	His	Glu
	290				295						300				
Tyr	Pro	Cys	Ser	Pro	Arg	Gly	Ser	Gln	Val	Lys	Leu	Glu	Ser	Gly	Met
305					310					315					320
Thr	Ile	Thr	Val	Glu	Pro	Gly	Val	Tyr	Phe	Pro	Gly	Ile	Gly	Gly	Ile
			325					330						335	
Arg	Ile	Glu	Asp	Thr	Leu	Cys	Ile	Asp	Lys	Asn	Lys	Asn	Phe	Ser	Leu
		340					345						350		
Thr	Ala	Arg	Pro	Val	Ile	Ser	Glu	Leu	Val	Cys	Leu				
		355					360								

<210> 816

<211> 454

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0814

<400> 816

Phe	Phe	Leu	Phe	Phe	Lys	Leu	Ser	Tyr	Asn	Phe	Ile	Phe	Asn	Leu	Pro
1				5					10					15	
Leu	Thr	Met	Tyr	Gln	Leu	Leu	Ser	Ile	Gly	Tyr	Ser	Phe	Val	Ser	Phe
		20						25					30		

Ile	Ala	Leu	Leu	Trp	Met	Leu	Cys	Tyr	Ser	Pro	Asn	Tyr	Val	Thr	Asp
	35						40					45			
Leu	Tyr	Arg	Ile	Ser	Leu	Ser	Ala	Glu	Glu	Ser	Leu	Gly	Gly	Ile	Arg
	50					55					60				
Ala	Phe	Pro	Gln	Ala	Glu	Ser	Leu	Leu	Gly	Gly	Ala	Cys	Ala	Leu	Asn
65					70					75					80
Phe	Pro	Asp	Leu	Glu	Glu	Arg	Leu	Pro	Asp	Leu	Arg	Lys	Glu	Leu	Leu
			85						90					95	
Phe	Leu	Gly	Ser	Asn	Asp	Arg	Pro	Asp	Ala	Cys	Gly	Gly	Lys	Phe	Ser
			100					105					110		
Leu	Gln	Leu	Ala	Ser	Ser	Lys	Glu	Cys	Tyr	Ile	Ala	Ala	Leu	Lys	Glu
		115					120					125			
Arg	Val	Tyr	Leu	Asn	Val	Thr	Asn	Ser	Ser	Arg	Gly	Pro	Val	Tyr	Ser
	130					135					140				
Phe	Ser	Pro	Lys	Gly	Val	Pro	Thr	Glu	Leu	Trp	Ile	Glu	Cys	Phe	Ser
145					150					155					160
Val	Ser	Val	Asp	Gly	Arg	Val	Glu	Val	Lys	Val	Arg	Leu	Gln	Gly	Leu
			165						170					175	
His	Lys	Glu	Leu	Ile	Ser	Lys	Pro	Arg	Asp	Cys	Glu	Thr	Leu	Phe	Leu
			180					185					190		
Asn	Pro	Pro	Ala	Asn	Lys	Leu	Asp	Cys	Trp	Glu	Ile	Ala	Gly	Phe	Arg
		195					200					205			
Val	Asp	Ala	Ser	Phe	Pro	Val	Lys	Gln	Lys	Ile	Arg	Arg	Ile	Gly	Val
	210					215					220				
Asp	Lys	Phe	Leu	Leu	Met	His	Gly	Gly	Ala	Glu	Tyr	Ala	Asp	Lys	Ala
225					230					235					240
Thr	Lys	Glu	Arg	Val	Asp	Phe	Val	Ser	Ser	Asp	Glu	Glu	Asn	Tyr	Ser
			245					250						255	
Arg	Tyr	Leu	Ala	Val	Gly	Asp	Val	Leu	Leu	Trp	Asp	Gly	Asn	Cys	Trp
			260					265					270		
Gln	Thr	Cys	Gly	Glu	Phe	Gln	Gly	Ala	Ser	Ser	Arg	Ala	Pro	Leu	Phe
		275					280					285			
Glu	Val	Lys	Arg	Ile	Asp	Asp	Lys	Val	Met	Ile	Ala	Asp	Leu	Trp	Asn
	290					295					300				
Val	Gly	Gly	Thr	Gln	Arg	Gln	Thr	Ile	Ser	Leu	Val	Lys	Gly	Val	Pro
305					310					315					320
Ser	Pro	Ile	Glu	Ile	Asn	Glu	Val	Ile	Arg	Glu	Ile	Glu	Phe	Thr	Gly
			325						330					335	
Met	Arg	Ser	Trp	Ser	Lys	Pro	Ile	Val	Leu	Val	Gly	Gly	Gln	Arg	Leu
			340					345					350		
Ile	Leu	Ser	Pro	Asp	Asp	Trp	Val	Leu	Arg	Thr	Ala	Lys	Gly	Trp	Glu
		355					360					365			
Lys	Leu	Ser	Arg	Ala	Asp	Gln	Ile	Gln	Asp	Tyr	Val	Thr	Gly	Lys	Val
		370				375					380				
Thr	Gly	Pro	Leu	Leu	Val	Phe	Glu	Lys	Leu	Glu	Lys	Asp	Leu	Arg	Gly
385					390					395					400
Phe	Val	Leu	Arg	Gly	His	Met	Phe	Asn	Ala	Gln	Arg	Thr	Leu	Val	Glu
			405					410						415	
Thr	Ile	Ser	Leu	Pro	Leu	Lys	Gln	Gly	Phe	Glu	Pro	Ala	Val	Ala	Ser
		420						425					430		
Gln	Glu	Val	Ser	Ser	Asn	Thr	Arg	Ser	Ala	Ala	Ala	His	Pro	Gly	Ala
		435					440					445			
Thr	Asn	Arg	Gly	Gly	Ser										
	450														

<210> 817

<211> 754

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0815

<400> 817

Met	Val	Phe	Phe	Arg	Asn	Ser	Leu	Leu	His	Leu	Val	Ala	Leu	Ser	Gly
1				5					10					15	
Met	Leu	Cys	Cys	Ser	Ser	Gly	Val	Ala	Leu	Thr	Ile	Ala	Glu	Lys	Met
		20					25						30		
Ala	Ser	Leu	Glu	His	Ser	Gly	Arg	Gly	Ala	Asp	Asp	Tyr	Glu	Gly	Met
		35				40					45				
Ala	Ser	Phe	Asn	Ala	Asn	Met	Arg	Glu	Tyr	Ser	Leu	Gln	Leu	Ser	Lys
	50				55					60					
Leu	Tyr	Glu	Glu	Ala	Arg	Lys	Leu	Arg	Ala	Ser	Gly	Thr	Glu	Asp	Glu
65					70				75					80	
Ala	Leu	Trp	Lys	Asp	Leu	Ile	Arg	Arg	Ile	Gly	Glu	Val	Arg	Gly	Tyr
			85					90					95		
Leu	Arg	Glu	Ile	Glu	Glu	Leu	Trp	Ala	Ala	Glu	Ile	Arg	Glu	Lys	Gly
		100						105					110		
Gly	Asn	Leu	Glu	Asp	Tyr	Ala	Leu	Trp	Asn	His	Pro	Glu	Thr	Thr	Ile
	115						120					125			
Tyr	Asn	Leu	Val	Thr	Asp	Tyr	Gly	Thr	Glu	Asp	Ser	Ile	Tyr	Leu	Ile
	130					135					140				
Pro	Gln	Glu	Ile	Gly	Ala	Ile	Lys	Ile	Ala	Thr	Leu	Ser	Lys	Phe	Val
145					150				155					160	
Val	Pro	Lys	Glu	Ser	Phe	Glu	Asp	Cys	Leu	Thr	Gln	Ile	Leu	Ser	Arg
			165					170					175		
Leu	Gly	Ile	Gly	Val	Arg	Gln	Val	Asn	Ser	Trp	Ile	Lys	Glu	Leu	Tyr
		180					185						190		
Met	Met	Arg	Lys	Glu	Gly	Cys	Ser	Val	Ala	Gly	Val	Phe	Ser	Ser	Arg
	195					200					205				
Lys	Asp	Leu	Glu	Ala	Leu	Pro	Glu	Thr	Ala	Tyr	Ile	Gly	Phe	Val	Leu
	210					215					220				
Asn	Ser	Asn	Val	Asp	Ala	His	Thr	Asn	Gln	His	Val	Leu	Lys	Lys	Phe
225					230					235					240
Ile	Asn	Pro	Glu	Thr	Thr	His	Val	Asp	Val	Ile	Ala	Gly	Arg	Val	Trp
			245					250					255		
Ile	Phe	Gly	Ser	Ala	Gly	Glu	Val	Gly	Glu	Leu	Leu	Lys	Ile	Tyr	Asn
		260				265							270		
Phe	Val	Gln	Ser	Glu	Ser	Ile	Arg	Gln	Glu	Tyr	Arg	Val	Ile	Pro	Leu
	275					280					285				
Thr	Lys	Ile	Asp	Pro	Gly	Glu	Met	Ile	Ser	Ile	Leu	Asn	Ala	Ala	Phe
	290					295					300				
Arg	Glu	Asp	Leu	Thr	Lys	Asp	Val	Ser	Glu	Glu	Ser	Leu	Gly	Leu	Arg
305					310					315				320	
Val	Val	Pro	Leu	Gln	Tyr	Gln	Gly	Arg	Ser	Leu	Phe	Leu	Ser	Gly	Thr
			325					330						335	
Ala	Ala	Leu	Val	Gln	Gln	Ala	Leu	Thr	Leu	Ile	Arg	Glu	Leu	Glu	Glu
		340						345					350		
Gly	Ile	Glu	Asn	Pro	Thr	Asp	Lys	Thr	Val	Phe	Trp	Tyr	Asn	Val	Lys
	355						360					365			
His	Ser	Asp	Pro	Gln	Glu	Leu	Ala	Ala	Leu	Leu	Ser	Gln	Val	His	Asp
	370					375					380				
Val	Phe	Ser	Gly	Glu	Asn	Lys	Ala	Ser	Val	Gly	Ala	Ala	Asp	Gly	Cys
385					390					395				400	
Gly	Ser	Gln	Leu	Asn	Ala	Ser	Ile	Gln	Ile	Asp	Thr	Thr	Val	Ser	Ser
			405					410						415	
Ser	Ala	Lys	Asp	Gly	Ser	Val	Lys	Tyr	Gly	Asn	Phe	Ile	Ala	Asp	Ser
		420						425					430		
Lys	Thr	Gly	Thr	Leu	Ile	Met	Val	Val	Glu	Lys	Glu	Val	Leu	Pro	Arg
		435					440						445		

Ile Gln Met Leu Leu Lys Lys Leu Asp Val Pro Lys Lys Met Val Arg
 450 455 460
 Ile Glu Val Leu Leu Phe Glu Arg Lys Leu Ala His Glu Gln Lys Ser
 465 470 475 480
 Gly Leu Asn Leu Leu Arg Leu Gly Glu Glu Val Cys Lys Lys Gly Cys
 485 490 495
 Ser Pro Ser Val Ser Trp Ala Gly Gly Thr Gly Ile Leu Glu Phe Leu
 500 505 510
 Phe Lys Gly Ser Thr Gly Ser Ser Ile Val Pro Gly Tyr Asp Leu Ala
 515 520 525
 Tyr Gln Phe Leu Met Ala Gln Glu Asp Val Arg Ile Asn Ala Ser Pro
 530 535 540
 Ser Val Val Thr Met Asn Gln Thr Pro Ala Arg Ile Ala Val Val Asp
 545 550 555 560
 Glu Met Ser Ile Ala Val Ser Ser Asp Lys Asp Lys Ala Gln Tyr Asn
 565 570 575
 Arg Ala Gln Tyr Gly Ile Met Ile Lys Met Leu Pro Val Ile Asn Val
 580 585 590
 Gly Glu Glu Asp Gly Lys Ser Tyr Ile Thr Leu Glu Thr Asp Ile Thr
 595 600 605
 Phe Asp Thr Thr Gly Lys Asn His Asp Asp Arg Pro Asp Val Thr Arg
 610 615 620
 Arg Asn Ile Thr Asn Lys Val Arg Ile Ala Asp Gly Glu Thr Val Ile
 625 630 635 640
 Ile Gly Gly Leu Arg Cys Lys Gln Met Ser Asp Ser His Asp Gly Ile
 645 650 655
 Pro Phe Leu Gly Asp Ile Pro Gly Ile Gly Lys Leu Phe Gly Met Ser
 660 665 670
 Ser Thr Ser Asp Ser Leu Thr Glu Met Phe Val Phe Ile Thr Pro Lys
 675 680 685
 Ile Leu Glu Asn Pro Val Glu Gln Gln Glu Arg Lys Glu Glu Ala Leu
 690 695 700
 Leu Ser Ser Arg Pro Gly Glu Arg Glu Glu Tyr Tyr Gln Ala Leu Ala
 705 710 715 720
 Ala Ser Glu Ala Ala Arg Ala Ala His Lys Lys Leu Glu Met Phe
 725 730 735
 Pro Ala Ser Gly Val Ser Leu Ser Gln Val Glu Arg Gln Glu Tyr Asp
 740 745 750
 Gly Cys

<210> 818
 <211> 501
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0816

<400> 818
 Arg Gly Lys Asn Thr Met Ala Ala Ser Ile Leu Ser Gln Glu Leu Leu
 1 5 10 15
 Asp Ile Leu Pro Tyr Thr Phe Leu Lys Lys His Cys Leu Leu Pro Ile
 20 25 30
 Glu Glu Ser Ser Glu Ala Ile Thr Ile Ala His Ala Thr Ala Thr Ser
 35 40 45
 Val Ile Ala Gln Asp Glu Val Lys Leu Leu Ile Lys Lys Pro Val Arg
 50 55 60
 Phe Val Leu Lys Glu Glu Ser Glu Ile Leu Gln Arg Leu Gln Gln Leu
 65 70 75 80

Tyr	Ser	Asn	Arg	Glu	Gly	Asn	Val	Ser	Asp	Met	Leu	Leu	Thr	Met	Lys
				85					90					95	
Glu	Glu	Asp	Gly	Thr	Thr	Ile	Ser	Glu	Glu	Glu	Asp	Leu	Leu	Glu	Thr
			100					105					110		
Thr	Asp	Thr	Ile	Pro	Val	Val	Arg	Leu	Leu	Asn	Trp	Ile	Leu	Lys	Glu
		115					120					125			
Ala	Ile	Glu	Glu	Arg	Ala	Ser	Asp	Ile	His	Phe	Glu	Pro	Cys	Glu	Asp
		130				135					140				
Ser	Met	Arg	Ile	Arg	Tyr	Arg	Ile	Asp	Gly	Val	Leu	His	Asp	Arg	His
145					150					155				160	
Ser	Pro	Pro	Ser	His	Leu	Arg	Ser	Ala	Leu	Thr	Thr	Arg	Leu	Lys	Val
				165					170					175	
Leu	Ala	Lys	Met	Asp	Ile	Ala	Glu	His	Arg	Leu	Pro	Gln	Asp	Gly	Arg
			180					185					190		
Ile	Lys	Ile	His	Ile	Gly	Gly	Gln	Glu	Val	Asp	Met	Arg	Val	Ser	Thr
		195					200					205			
Val	Pro	Val	Ile	Tyr	Gly	Glu	Arg	Val	Val	Leu	Arg	Ile	Leu	Asp	Lys
	210					215					220				
Arg	Asn	Val	Ile	Leu	Asp	Ile	Ala	Gly	Leu	His	Met	Pro	Lys	Gly	Thr
225					230					235					240
Glu	Ile	Leu	Phe	Lys	Asp	Thr	Ile	Thr	Ala	Pro	Glu	Gly	Ile	Leu	Leu
				245					250					255	
Val	Thr	Gly	Pro	Thr	Gly	Ser	Gly	Lys	Thr	Thr	Thr	Leu	Tyr	Ser	Val
			260					265					270		
Leu	Gln	Glu	Leu	Lys	Gly	Pro	Leu	Thr	Asn	Ile	Met	Thr	Ile	Glu	Asp
		275					280					285			
Pro	Pro	Glu	Tyr	Lys	Leu	Pro	Gly	Ile	Ala	Gln	Ile	Ala	Val	Lys	Pro
		290				295					300				
Lys	Ile	Gly	Leu	Thr	Phe	Ala	Arg	Gly	Leu	Arg	His	Leu	Leu	Arg	Gln
305					310					315					320
Asp	Pro	Asp	Ile	Leu	Met	Val	Gly	Glu	Ile	Arg	Asp	Gln	Glu	Thr	Ala
				325					330					335	
Glu	Ile	Ala	Ile	Gln	Ala	Ala	Leu	Thr	Gly	His	Leu	Val	Val	Ser	Thr
			340					345					350		
Leu	His	Thr	Asn	Asp	Ala	Ile	Ser	Ala	Ile	Pro	Arg	Leu	Leu	Asp	Met
		355					360					365			
Gly	Ile	Glu	Ser	Tyr	Leu	Leu	Ser	Ala	Thr	Leu	Val	Gly	Val	Val	Ala
		370				375					380				
Gln	Arg	Leu	Val	Arg	Thr	Ile	Cys	Pro	Tyr	Cys	Lys	Val	Ala	Tyr	Thr
385					390					395					400
Pro	Glu	Asn	Gln	Glu	Lys	Ser	Phe	Leu	Ala	Ser	Leu	Gly	Lys	Asp	Thr
			405						410					415	
Glu	Met	Pro	Leu	Tyr	Arg	Gly	Gln	Gly	Cys	Val	His	Cys	Phe	Arg	Ser
			420					425					430		
Gly	Tyr	Lys	Gly	Arg	Gln	Gly	Ile	Tyr	Glu	Phe	Leu	Arg	Pro	Asn	Thr
		435				440					445				
Leu	Phe	Arg	Ser	Glu	Val	Ala	Ser	Asn	Arg	Pro	Tyr	His	Ile	Leu	Arg
		450				455					460				
Glu	Thr	Ala	Glu	Gln	Asn	Gly	Phe	Leu	Pro	Ile	Leu	Glu	His	Gly	Ile
465					470					475					480
Ala	Leu	Ala	Val	Ser	Gly	Glu	Thr	Thr	Leu	Ala	Glu	Val	Leu	Arg	Val
				485					490					495	
Thr	Lys	Arg	Cys	Asp											
			500												

<210> 819

<211> 394

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0817

<400> 819

Gly Gly Arg Met Pro Arg Tyr Arg Tyr Thr Tyr Leu Asp Pro Lys Glu
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Arg Arg Lys Arg Gly Tyr Leu Glu Ala Leu His Ile Gln Glu Ala Arg
20 25 30
Glu Lys Leu Ala Gln Glu Asn Ile Gln Val Leu Asp Ile Arg Glu Val
35 40 45
Ala Leu Arg Arg Met Ser Ile Lys Ser Thr Glu Leu Ile Val Phe Thr
50 55 60
Lys Gln Leu Leu Leu Leu Leu Arg Ser Gly Leu Pro Leu Tyr Glu Ser
65 70 75 80
Leu Val Ser Leu Arg Asp Gln Tyr His Glu Gln Lys Met Gly Leu Leu
85 90 95
Leu Thr Ser Phe Met Glu Thr Leu Arg Ser Gly Gly Ser Leu Ser Gln
100 105 110
Ala Met Ala Ala His Pro Asn Ile Phe Asp His Phe Tyr Cys Ser Gly
115 120 125
Val Ala Ala Gly Glu Ser Val Gly Asn Leu Glu Gly Cys Leu Gln Asn
130 135 140
Ile Ile Val Val Leu Glu Glu Arg Ala Gln Ile Thr Lys Lys Met Val
145 150 155 160
Gly Ala Leu Ser Tyr Pro Cys Val Leu Leu Val Phe Ser Phe Ala Val
165 170 175
Met Leu Phe Phe Leu Leu Gly Val Ile Pro Ser Leu Lys Glu Thr Phe
180 185 190
Glu Asn Met Glu Val Lys Gly Leu Thr Lys Ile Val Phe Gly Val Ser
195 200 205
Asp Cys Leu Ser Ala Tyr Arg Tyr Leu Phe Leu Gly Phe Ala Ser Ala
210 215 220
Leu Ile Thr Val Gly Ile Leu Met Arg His Arg Ile Pro Trp Lys Lys
225 230 235 240
Ile Leu Glu Lys Leu Leu Phe Ala Leu Pro Gly Thr Lys Lys Phe Val
245 250 255
Val Lys Val Ala Val Asn Arg Phe Cys Ser Val Ala Ser Ala Ile Leu
260 265 270
Lys Gly Gly Gly Thr Leu Ile Glu Gly Leu Asp Leu Gly Cys Asp Ala
275 280 285
Ile Pro Tyr Asp Arg Leu Lys Thr Asp Met Arg Asp Ile Val Gln Ala
290 295 300
Val Ile Gly Gly Gly Ser Leu Ser Gln Glu Leu Ala Gln Arg Ser Trp
305 310 315 320
Val Pro Lys Leu Ala Ile Gly Met Ile Ala Leu Gly Glu Glu Ser Gly
325 330 335
Asp Leu Ala Asp Val Leu Gly Tyr Val Ala His Ile Tyr Asn Glu Asp
340 345 350
Thr Gln Lys Thr Leu Ala Ser Ile Thr Ser Trp Cys Gln Pro Val Ile
355 360 365
Leu Ile Phe Leu Gly Gly Leu Ile Gly Val Ile Met Leu Ala Ile Leu
370 375 380
Ile Pro Leu Thr Ser Asn Ile Gln Thr Leu
385 390

<210> 820

<211> 175

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0818

<400> 820

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Gly Tyr Thr Lys Asn Val Gly Phe Asp Asn Val Val Val Ser Thr Arg
 1          5          10          15
Asp Ser Asp Phe Ser Trp Trp Pro Asp Arg Cys Asp His Val Gly Asn
 20          25          30
Ile Asp Pro Thr His Lys Gln Tyr Pro Asn Ile Ile Lys Cys Val Leu
 35          40          45
Arg Gly Val Gly Met Lys Arg Gln Lys Arg Lys Gln Ser Ile Thr Leu
 50          55          60
Ile Glu Met Met Val Val Ile Thr Leu Ile Gly Ile Ile Gly Gly Ala
 65          70          75          80
Leu Ala Phe Asn Met Arg Gly Ser Ile His Lys Gly Lys Val Phe Gln
 85          90          95
Ser Glu Gln Asn Cys Ala Lys Val Tyr Asp Ile Leu Met Met Glu Tyr
100          105          110
Ala Thr Gly Gly Ser Ser Leu Lys Glu Ile Ile Ala His Lys Glu Thr
115          120          125
Val Val Glu Glu Ala Ser Trp Cys Lys Glu Gly Arg Lys Leu Leu Lys
130          135          140
Asp Ala Trp Gly Glu Asp Leu Ile Val Gln Leu Asn Asp Lys Gly Asp
145          150          155          160
Asp Leu Val Ile Phe Ser Lys Arg Val Gln Ser Ser Asn Lys Lys
165          170          175
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<210> 821

<211> 54

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0819

<400> 821

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Ala Ser Leu Tyr Gly Tyr Cys Leu Phe Leu Ile Trp Glu Lys Phe His
 1          5          10          15
Asn Asn Ile Gly Lys Ala Asn Phe His Leu Lys Ile Ile Thr Thr Asp
 20          25          30
Phe Leu Thr Asp Ile Tyr Ile Val Thr Ile Arg Asp Pro Ile Ala Tyr
 35          40          45
Pro Leu Thr Gly Ile Cys
50
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<210> 822

<211> 206

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0820

<400> 822

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Asp Glu Ser Leu Pro Cys Arg Cys Cys Cys Gly Thr Phe Pro Arg Ser
 1          5          10          15
Glu Thr Ser Ser Ile Arg Thr Glu Met Pro Met Cys Asn Ser Ile Ala
 20          25          30
Met Lys Lys Gln Lys Arg Gly Phe Val Leu Met Glu Leu Leu Met Ser
 35          40          45
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Phe	Thr	Leu	Ile	Ala	Leu	Leu	Leu	Gly	Thr	Leu	Gly	Phe	Trp	Tyr	Arg
50					55					60					
Lys	Ile	Tyr	Thr	Val	Gln	Lys	Gln	Lys	Glu	Arg	Ile	Tyr	Asn	Phe	Tyr
65				70					75						80
Ile	Glu	Glu	Ser	Arg	Ala	Tyr	Lys	Gln	Leu	Arg	Thr	Leu	Phe	Ser	Met
			85						90					95	
Ser	Leu	Ser	Ser	Ser	Tyr	Glu	Glu	Pro	Gly	Ser	Leu	Phe	Ser	Leu	Ile
			100					105					110		
Phe	Asp	Arg	Gly	Val	Tyr	Arg	Asp	Pro	Lys	Leu	Ala	Gly	Ala	Val	Arg
	115						120						125		
Ala	Ser	Leu	His	His	Asp	Thr	Lys	Asp	Gln	Arg	Leu	Glu	Leu	Arg	Ile
	130				135						140				
Cys	Asn	Ile	Lys	Asp	Gln	Ser	Tyr	Phe	Glu	Thr	Gln	Arg	Leu	Leu	Ser
145				150					155						160
His	Val	Thr	His	Val	Val	Leu	Ser	Phe	Gln	Arg	Asn	Pro	Asp	Pro	Glu
			165					170						175	
Lys	Leu	Pro	Glu	Thr	Ile	Ala	Leu	Thr	Ile	Thr	Arg	Glu	Pro	Lys	Ala
		180						185					190		
Tyr	Pro	Pro	Arg	Thr	Leu	Thr	Tyr	Gln	Phe	Ala	Val	Gly	Lys		
		195					200					205			

<210> 823
 <211> 344
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0821

<400> 823															
His	Thr	Asn	Leu	Arg	Leu	Gly	Asn	Lys	Pro	Met	Gln	Pro	Phe	Ile	Phe
1			5						10					15	
Thr	Leu	Leu	Cys	Leu	Thr	Ser	Leu	Val	Ser	Leu	Val	Ala	Phe	Asp	Ala
		20					25						30		
Ala	Asn	Ala	Arg	Lys	Arg	Cys	Ala	Cys	Ala	Gln	Thr	Ile	Glu	Arg	Gly
	35					40						45			
Glu	Asn	Phe	Phe	Ser	Ile	Lys	Arg	Ser	Ala	Cys	Ala	Glu	Ile	Glu	Tyr
	50					55				60					
Gln	Glu	Lys	Ser	Arg	His	Ala	Ser	Ala	Ile	Glu	Arg	Ile	Ser	Lys	Asp
65				70					75					80	
Lys	Gly	Lys	Val	Thr	Pro	Lys	Gln	Ile	Ala	Lys	Val	Ala	Thr	Lys	Lys
			85						90					95	
Lys	Gln	Arg	Tyr	Arg	Leu	Leu	Gln	Val	Pro	Phe	Ser	Arg	Pro	Pro	Asn
		100					105						110		
Asn	Ser	Arg	Tyr	Asn	Leu	Tyr	Ala	Leu	Leu	Ser	Glu	Pro	Pro	Glu	Cys
		115					120					125			
Tyr	Ser	Asp	Thr	Ala	Ser	Trp	Tyr	Ala	Ile	Phe	Ile	Arg	Leu	Leu	Arg
	130				135						140				
Arg	Ala	Tyr	Val	Asp	Thr	Gly	Asn	Val	Pro	Pro	Gly	Ser	Glu	Tyr	Ala
145				150						155					160
Ile	Ala	Asn	Ala	Leu	Ile	Ser	Asn	Lys	Gln	Glu	Ile	Leu	Glu	Arg	Gly
			165						170					175	
Ala	Gln	Leu	Gly	Pro	Asp	Val	Ile	Glu	Thr	Leu	Thr	Leu	Pro	Glu	Glu
		180						185					190		
Gln	Ala	Glu	Ile	Phe	Tyr	Lys	Met	Leu	Lys	Gly	Ser	Ser	Asn	Ser	Gln
	195						200					205			
Ser	Leu	Leu	Asn	Phe	Leu	His	Tyr	Glu	Glu	Lys	Ser	Leu	Gly	His	Cys
	210					215					220				
Lys	Leu	Asn	Leu	Ile	Phe	Met	Asp	Pro	Leu	Leu	Leu	Glu	Ala	Val	Leu
225					230					235					240

Lys Glu Leu Met Gly Ile Ser Leu Pro Glu Leu Phe Ser Asn Leu Gly
 20 25 30
 Ser Ala Tyr Leu Asp Tyr Ile Phe Gln His Pro Pro Ala Tyr Val Trp
 35 40 45
 Ser Val Phe Leu Leu Leu Leu Ala Arg Leu Leu Pro Ile Phe Ala Val
 50 55 60
 Ala Pro Phe Leu Gly Ala Lys Leu Phe Pro Ser Pro Ile Lys Ile Gly
 65 70 75 80
 Ile Ser Leu Ser Trp Leu Ala Ile Ile Phe Pro Lys Val Leu Ala Asp
 85 90 95
 Thr Gln Ile Thr Asn Tyr Met Asp Asn Asn Leu Phe Tyr Val Leu Leu
 100 105 110
 Val Lys Glu Met Ile Ile Gly Ile Val Ile Gly Phe Val Leu Ala Phe
 115 120 125
 Pro Phe Tyr Ala Ala Gln Ser Ala Gly Ser Phe Ile Thr Asn Gln Gln
 130 135 140
 Gly Ile Gln Gly Leu Glu Gly Ala Thr Ser Leu Ile Ser Ile Glu Gln
 145 150 155 160
 Thr Ser Pro His Gly Ile Leu Tyr His Tyr Phe Val Thr Ile Ile Phe
 165 170 175
 Trp Leu Val Gly Gly His Arg Ile Val Ile Ser Leu Leu Leu Gln Thr
 180 185 190
 Leu Glu Val Ile Pro Ile His Ser Phe Phe Pro Ala Glu Met Met Ser
 195 200 205
 Leu Ser Ala Pro Ile Trp Ile Thr Met Ile Lys Met Cys Gln Leu Cys
 210 215 220
 Leu Val Met Thr Ile Gln Leu Ser Ala Pro Ala Ala Leu Ala Met Leu
 225 230 235 240
 Met Ser Asp Leu Phe Leu Gly Ile Ile Asn Arg Met Ala Pro Gln Val
 245 250 255
 Gln Val Ile Tyr Leu Leu Ser Ala Leu Lys Ala Phe Met Gly Leu Leu
 260 265 270
 Phe Leu Thr Leu Ala Trp Trp Phe Ile Ile Lys Gln Ile Asp Tyr Phe
 275 280 285
 Thr Leu Ala Trp Phe Lys Glu Val Pro Ile Met Leu Leu Gly Ser Asn
 290 295 300
 Pro Gln Val Leu
 305

<210> 826
 <211> 100
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0824

<400> 826
 Ile Arg Thr Arg Ala Val Leu Ala Phe Phe Ala Thr Ser Phe Lys Ser
 1 5 10 15
 Val Leu Phe Glu Tyr Ser Tyr Gln Ser Leu Leu Leu Ile Leu Ile Val
 20 25 30
 Ser Ala Pro Pro Ile Ile Leu Ala Ser Ile Val Gly Ile Met Val Ala
 35 40 45
 Ile Phe Gln Ala Ala Thr Gln Ile Gln Glu Gln Thr Phe Ala Phe Ala
 50 55 60
 Val Lys Leu Val Val Ile Phe Gly Thr Leu Met Ile Ser Gly Gly Trp
 65 70 75 80
 Leu Ser Asn Met Ile Leu Arg Phe Ala Gly Gln Ile Phe Gln Asn Phe
 85 90 95

Tyr Lys Trp Lys
100

<210> 827
<211> 314
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0825

<400> 827
Glu Arg Ile Lys Val Phe Thr Ile Met Arg Ser Ile Phe Arg Phe Ser
1 5 10 15
Leu Cys Phe Phe Thr Leu Ser Val Ser Cys Cys Phe Ala Asp Ala Ser
20 25 30
Leu Tyr Glu Asn Ser Cys Pro Ser Arg Cys Gln Pro Thr Pro Pro
35 40 45
Ser Asn Ser Asn Pro Leu Asn Val Val Gln Gln Pro Val Ala Ala Ser
50 55 60
Ser Val Pro Ser Tyr Met Pro Pro Leu Asn Ala Asp Asp Val Leu Pro
65 70 75 80
Arg Asp His Leu Ser Asp Gly Ser Phe Ser Asp Thr Tyr Pro Asp Ile
85 90 95
Thr Thr Gln Ala Ile Ile Leu Ile Phe Leu Ala Leu Ser Pro Phe Leu
100 105 110
Val Met Leu Leu Thr Ser Tyr Leu Lys Ile Ile Ile Thr Leu Val Leu
115 120 125
Leu Arg Asn Ala Leu Gly Val Gln Gln Thr Pro Pro Ser Gln Val Leu
130 135 140
Asn Gly Ile Ala Leu Ile Leu Ser Ile Tyr Val Met Phe Pro Thr Gly
145 150 155 160
Val Ala Met Tyr Lys Asp Ala Arg Lys Glu Ile Glu Ala Asn Thr Ile
165 170 175
Pro Gln Ser Leu Phe Thr Ala Glu Gly Ala Glu Thr Val Phe Val Ala
180 185 190
Leu Asn Lys Ser Lys Glu Pro Leu Arg Ser Phe Leu Ile Arg Asn Thr
195 200 205
Pro Lys Ala Gln Ile Gln Ser Phe Tyr Lys Ile Ser Gln Lys Thr Phe
210 215 220
Pro Ser Glu Ile Arg Ala His Leu Thr Ala Ser Asp Phe Val Ile Ile
225 230 235 240
Ile Pro Ala Phe Ile Met Gly Gln Ile Lys Asn Ala Phe Glu Ile Gly
245 250 255
Val Leu Ile Tyr Leu Pro Phe Phe Val Ile Asp Leu Val Thr Ala Asn
260 265 270
Val Leu Val Ala Met Gln Met Met Met Leu Ser Pro Leu Ser Ile Ser
275 280 285
Leu Pro Leu Lys Leu Leu Leu Ile Val Met Val Asp Gly Trp Thr Leu
290 295 300
Leu Leu Gln Gly Leu Met Ile Ser Phe Lys
305 310

<210> 828
<211> 257
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0826

<400> 828

His	Asp	Asn	Lys	Arg	Ser	Gly	Val	Phe	Ser	Ser	Glu	Val	Asn	Gln	Pro
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Gln	Arg	Tyr	Tyr	Ala	Ile	Val	Lys	Met	Lys	Phe	Phe	Ser	Leu	Ile	Phe
		20						25					30		
Lys	Asp	Asp	Asp	Val	Ser	Pro	Asn	Lys	Lys	Val	Leu	Ser	Pro	Glu	Ala
	35					40					45				
Phe	Ser	Ala	Phe	Leu	Asp	Ala	Lys	Glu	Leu	Leu	Glu	Lys	Thr	Lys	Ala
	50				55						60				
Asp	Ser	Glu	Ala	Tyr	Val	Ala	Glu	Thr	Glu	Gln	Lys	Cys	Ala	Gln	Ile
65				70					75					80	
Arg	Gln	Glu	Ala	Lys	Asp	Gln	Gly	Phe	Lys	Glu	Gly	Ser	Glu	Ser	Trp
			85					90					95		
Ser	Lys	Gln	Ile	Ala	Phe	Leu	Glu	Glu	Glu	Thr	Lys	Asn	Leu	Arg	Ile
		100						105					110		
Arg	Val	Arg	Glu	Ala	Leu	Val	Pro	Leu	Ala	Ile	Ala	Ser	Val	Arg	Lys
	115					120						125			
Ile	Ile	Gly	Lys	Glu	Leu	Glu	Leu	His	Pro	Glu	Thr	Ile	Val	Ser	Ile
	130				135						140				
Ile	Ser	Gln	Ala	Leu	Lys	Glu	Leu	Thr	Gln	Asn	Lys	His	Ile	Ile	Ile
145				150					155					160	
Ser	Val	Asn	Pro	Lys	Asp	Leu	Pro	Leu	Val	Glu	Lys	Ser	Arg	Pro	Glu
			165					170					175		
Leu	Lys	Asn	Ile	Val	Glu	Tyr	Ala	Asp	Ser	Leu	Ile	Leu	Thr	Ala	Lys
		180					185					190			
Pro	Asp	Val	Thr	Pro	Gly	Gly	Cys	Ile	Ile	Glu	Thr	Glu	Ala	Gly	Ile
	195					200						205			
Ile	Asn	Ala	Gln	Leu	Asp	Val	Gln	Leu	Asp	Ala	Leu	Glu	Lys	Ala	Phe
	210				215						220				
Ser	Thr	Ile	Leu	Lys	Ala	Lys	Asn	Pro	Val	Asp	Glu	Pro	Ser	Glu	Thr
225				230					235					240	
Ser	Ser	Ser	Thr	Asp	Ser	Ser	Ser	Leu	Ser	Asn	Asp	Gln	Asp	Lys	Lys
			245					250				255			

Glu

<210> 829
 <211> 280
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0827

<400> 829

Gly	Cys	Leu	Val	Thr	Ala	Asn	Thr	Phe	Gly	Thr	Leu	Asp	Ile	Leu	Met
1				5					10					15	
Lys	His	Ser	Lys	Glu	Asp	Asp	Leu	Ser	Arg	Phe	Leu	Pro	Lys	Asn	Leu
		20						25					30		
Leu	Val	Glu	Ser	Pro	His	Pro	Glu	Glu	Ile	Pro	Leu	Lys	Ser	Leu	Ser
	35					40						45			
Phe	Thr	Met	Ser	Trp	Leu	Pro	Thr	Ile	His	Pro	Ser	Trp	Ile	Thr	Ile
	50				55					60					
Ala	Met	Lys	Glu	Phe	Pro	Pro	Glu	Ile	Gln	Gly	Gln	Leu	Leu	Ala	Trp
65				70					75					80	
Leu	Pro	Glu	Pro	Leu	Val	Gln	Glu	Ile	Leu	Pro	Leu	Leu	Pro	Gly	Ile
			85					90				95			
Ser	Ile	Ala	Pro	His	Arg	Cys	Ala	Pro	Phe	Gly	Ala	Phe	Tyr	Leu	Leu
		100					105					110			
Asp	Met	Leu	Ser	Lys	Lys	Ile	Arg	Pro	Cys	Gly	Ile	Thr	Glu	Glu	Ile
	115					120						125			

Phe Leu Pro Ala Ser Ser Ala Asn Ala Ile Leu Tyr Tyr Thr Gly Pro
 130 135 140
 Val Lys Ile Ala Leu Ile Asn Cys Leu Gly Leu Tyr Ser Ile Ala Lys
 145 150 155 160
 Glu Leu Lys His Ile Leu Asp Lys Val Val Ile Glu Arg Val Lys Asn
 165 170 175
 Ala Leu Ser Pro Thr Glu Lys Leu Phe Leu Thr Tyr Cys Gln Ser His
 180 185 190
 Pro Met Lys His Leu Glu Thr Thr Asn Phe Leu Ser Ser Trp Thr Thr
 195 200 205
 Asp Ala Glu Leu Arg Gln Phe Val His Lys Gln Gly Leu Glu Phe Leu
 210 215 220
 Gly Lys Ala Leu Thr Lys Glu Asn Ala Ser Phe Leu Trp Tyr Phe Leu
 225 230 235 240
 Arg Arg Leu Asp Val Gly Arg Ala Tyr Ile Val Glu Gln Thr Leu Lys
 245 250 255
 Thr Trp Tyr Asp His Pro Tyr Val Asp Tyr Phe Lys Ser Arg Leu Glu
 260 265 270
 Gln Cys Met Lys Val Leu Val Lys
 275 280

<210> 830
 <211> 342
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0828

<400> 830
 Ile Lys Arg Tyr Ala Trp Ile Met Val Arg Arg Ser Ile Ser Phe Cys
 1 5 10 15
 Leu Phe Phe Leu Met Thr Leu Leu Cys Thr Ser Cys Asn Ser Arg
 20 25 30
 Ser Leu Ile Val His Gly Leu Pro Gly Arg Glu Ala Asn Glu Ile Val
 35 40 45
 Val Leu Leu Val Ser Lys Gly Val Ala Ala Gln Lys Leu Pro Gln Ala
 50 55 60
 Ala Ala Ala Thr Ala Gly Ala Ala Thr Glu Gln Met Trp Asp Ile Ala
 65 70 75 80
 Val Pro Ser Ala Gln Ile Thr Glu Ala Leu Ala Ile Leu Asn Gln Ala
 85 90 95
 Gly Leu Pro Arg Met Lys Gly Thr Ser Leu Leu Asp Leu Phe Ala Lys
 100 105 110
 Gln Gly Leu Val Pro Ser Glu Leu Gln Glu Lys Ile Arg Tyr Gln Glu
 115 120 125
 Gly Leu Ser Glu Gln Met Ala Ser Thr Ile Arg Lys Met Asp Gly Val
 130 135 140
 Val Asp Ala Ser Val Gln Ile Ser Phe Thr Thr Glu Asn Glu Asp Asn
 145 150 155 160
 Leu Pro Leu Thr Ala Ser Val Tyr Ile Lys His Arg Gly Val Leu Asp
 165 170 175
 Asn Pro Asn Ser Ile Met Val Ser Lys Ile Lys Arg Leu Ile Ala Ser
 180 185 190
 Ala Val Pro Gly Leu Val Pro Glu Asn Val Ser Val Val Ser Asp Arg
 195 200 205
 Ala Ala Tyr Ser Asp Ile Thr Ile Asn Gly Pro Trp Gly Leu Thr Glu
 210 215 220
 Glu Ile Asp Tyr Val Ser Val Trp Gly Ile Ile Leu Ala Lys Ser Ser
 225 230 235 240

Phe Pro Gln Val Phe Ser Lys Val Val Val Tyr Lys Tyr Lys Ser Ser
 20 25 30
 Arg Ile Leu Leu Ile Ala Leu Leu Tyr Asn Ile Thr Leu Val Leu Gly
 35 40 45
 Leu Ile Phe Ile His Lys Lys Tyr Leu Gly Gln Lys Gly Arg Val Ile
 50 55 60
 Leu Lys Ile Tyr Gln Asn Glu Glu Glu Phe Phe Arg Ala Thr Glu Arg
 65 70 75 80
 Phe Pro Ser Ile Gly Ala Gly Tyr Leu Arg Val Arg Asn Lys Asn Ser
 85 90 95
 Val Leu Phe Pro Phe Glu Asp Leu Met Leu Val Cys Pro Ser Val Pro
 100 105 110
 Lys Asp Phe Pro Leu Ser Ala Phe Lys Val Thr Thr Lys Leu Ile Tyr
 115 120 125
 Trp Ser Val Leu Glu Ser Ile Pro Val Val Gly Ala Phe Phe Phe Ser
 130 135 140
 Ile Gly Arg Leu Phe Ala Met Trp Cys Ile Glu Asp Phe Pro Gly Ser
 145 150 155 160
 Ile Phe Ser Arg Ile Tyr His Thr Ile Val Gly Val Leu Gly Ile Leu
 165 170 175
 Gly Leu Gly Ile Ile Met Phe Ile Leu Arg Ile Ile Phe Thr Leu Leu
 180 185 190
 Thr Leu Pro Phe Trp Leu Ile Ser Cys Leu Lys Ser Ser Ala Ala
 195 200 205

<210> 833
 <211> 62
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0831

<400> 833
 Asn Lys Arg Lys Asn Asn Val Leu Ile Arg Lys Ser Glu Ser Glu Gly
 1 5 10 15
 Ala Phe Phe Glu Ala Thr Gln Asn Tyr Pro Thr Ile Gln Gln Gly Tyr
 20 25 30
 Gln Leu Val Arg Ile Arg Glu His Asn Leu Ser Val Arg Ala His Phe
 35 40 45
 Asp Leu Ser Leu Ser Leu Asp Ala Ser Val His Pro Ala Ala
 50 55 60

<210> 834
 <211> 308
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0832

<400> 834
 Val Met Lys Cys Arg Pro Thr Leu Asn Thr Asp Gln Pro Arg Val Arg
 1 5 10 15
 Lys Lys Leu Pro Glu Arg Phe Pro Lys Trp Leu Gln Arg Pro Leu Pro
 20 25 30
 Gln Gly Ser Ala Phe His Ala Thr Asp Ala Thr Ile Lys Arg Ser Gly
 35 40 45
 Met Pro Thr Val Cys Glu Glu Ala Leu Cys Pro Asn Arg Ala Glu Cys
 50 55 60

Trp Ser Arg Lys Thr Ala Thr Tyr Leu Ala Leu Gly Asp Val Cys Thr
 65 70 75 80
 Arg Ser Cys Gly Phe Cys Asn Ile Gly His Ser Lys Thr Pro Pro Ala
 85 90 95
 Leu Asp Pro Thr Glu Pro Glu Arg Ile Ala Leu Ser Ala Lys Glu Leu
 100 105 110
 Gly Leu Lys His Val Val Ile Thr Met Val Ala Arg Asp Asp Leu Glu
 115 120 125
 Asp Gly Gly Ala Gln Gly Leu Val Asp Ile Ile Gln Lys Leu Arg Glu
 130 135 140
 Glu Leu Pro Gln Ala Thr Glu Val Leu Ala Ser Asp Phe Gln Gly
 145 150 155 160
 Asn Val Ser Ala Leu His Thr Leu Leu Asp Ser Gly Ile Thr Ile Tyr
 165 170 175
 Asn His Asn Val Glu Thr Val Ala Arg Leu Ser Pro Leu Val Arg His
 180 185 190
 Lys Ala Thr Tyr Ala Arg Ser Met Phe Met Leu Glu Gln Ala Ala Asn
 195 200 205
 Tyr Leu Pro Asp Leu Lys Ile Lys Ser Gly Ile Met Val Gly Leu Gly
 210 215 220
 Glu Met Glu Gly Glu Val Lys Gln Thr Leu Gln Asp Leu Ala Ser Ile
 225 230 235 240
 Gly Val Arg Ile Val Thr Ile Gly Gln Tyr Leu Arg Pro Ser Arg Lys
 245 250 255
 His Leu Gln Val Lys Ser Tyr Val Thr Pro Glu Thr Phe Asp Tyr Tyr
 260 265 270
 Arg Arg Val Gly Glu Ala Met Gly Leu Phe Val Tyr Ala Gly Pro Phe
 275 280 285
 Val Arg Ser Ser Phe Asn Ala Asp Met Ile Leu Ala Ser Val Gln Asp
 290 295 300
 Lys Ala Ser Ala
 305

<210> 835
 <211> 475
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0833

<400> 835
 Arg Gly Val Leu Phe Glu Ile Leu Ile Thr Val Ser Glu Asn Met Thr
 1 5 10 15
 Gln Glu Phe Asp Cys Val Val Ile Gly Ala Gly Pro Ser Gly Tyr Val
 20 25 30
 Ala Ala Ile Thr Ala Ala Gln Ser Lys Leu Arg Thr Ala Leu Ile Glu
 35 40 45
 Glu Asp Gln Ala Gly Gly Thr Cys Leu Asn Arg Gly Cys Ile Pro Ser
 50 55 60
 Lys Ala Leu Ile Ala Gly Ala Asn Val Val Ser His Ile Lys His Ala
 65 70 75 80
 Glu Gln Phe Gly Ile His Val Asp Gly Tyr Thr Ile Asp Tyr Pro Ala
 85 90 95
 Met Ala Lys Arg Lys Asn Thr Val Val Gln Gly Ile Arg Gln Gly Leu
 100 105 110
 Glu Gly Leu Ile Arg Ser Asn Lys Ile Thr Val Leu Lys Gly Thr Gly
 115 120 125
 Ser Leu Val Ser Ser Thr Glu Val Lys Val Ile Gly Gln Asp Thr Thr
 130 135 140

Ile Ile Lys Ala Asn His Ile Ile Leu Ala Thr Gly Ser Glu Pro Arg
 145 150 155 160
 Pro Phe Pro Gly Val Pro Phe Ser Ser Arg Ile Leu Ser Ser Thr Gly
 165 170 175
 Ile Leu Glu Leu Glu Val Leu Pro Lys Lys Leu Ala Ile Ile Gly Gly
 180 185 190
 Gly Val Ile Gly Cys Glu Phe Ala Ser Leu Phe His Thr Leu Gly Val
 195 200 205
 Glu Ile Thr Val Ile Glu Ala Leu Asp His Ile Leu Ala Val Asn Asn
 210 215 220
 Lys Glu Val Ser Gln Thr Val Thr Asn Lys Phe Thr Lys Gln Gly Ile
 225 230 235 240
 Arg Ile Leu Thr Lys Ala Ser Ile Ser Ala Ile Glu Glu Ser Gln Asn
 245 250 255
 Gln Val Arg Ile Thr Val Asn Asp Gln Val Glu Glu Phe Asp Tyr Val
 260 265 270
 Leu Val Ala Ile Gly Arg Gln Phe Asn Thr Ala Ser Ile Gly Leu Asp
 275 280 285
 Asn Ala Gly Val Ile Arg Asp Arg Gly Val Ile Pro Val Asp Glu
 290 295 300
 Thr Met Arg Thr Asn Val Pro Asn Ile Tyr Ala Ile Gly Asp Ile Thr
 305 310 315 320
 Gly Lys Trp Leu Leu Ala His Val Ala Ser His Gln Gly Val Ile Ala
 325 330 335
 Ala Lys Asn Ile Ser Gly His His Glu Val Met Asp Tyr Ser Ala Ile
 340 345 350
 Pro Ser Val Ile Phe Thr His Pro Glu Ile Ala Met Val Gly Leu Ser
 355 360 365
 Leu Gln Glu Ala Glu Gln Gln Asn Leu Pro Ala Lys Leu Thr Lys Phe
 370 375 380
 Pro Phe Lys Ala Ile Gly Lys Ala Val Ala Leu Gly Ala Ser Asp Gly
 385 390 395 400
 Phe Ala Ala Ile Val Ser His Glu Ile Thr Gln Gln Ile Leu Gly Ala
 405 410 415
 Tyr Val Ile Gly Pro His Ala Ser Ser Leu Ile Gly Glu Met Thr Leu
 420 425 430
 Ala Ile Arg Asn Glu Leu Thr Leu Pro Cys Ile Tyr Glu Thr Val His
 435 440 445
 Ala His Pro Thr Leu Ser Glu Val Trp Ala Glu Gly Ala Leu Leu Ala
 450 455 460
 Thr Asn His Pro Leu His Phe Pro Pro Lys Ser
 465 470 475

<210> 836

<211> 157

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0834

<400> 836

Lys Ile Pro Met Pro Phe Ala Lys Glu Thr Glu Met Gln Arg Thr Cys
 1 5 10 15
 Trp Lys Cys Glu Gly Ser Val Ser Met His Val Pro Gln Cys Pro Tyr
 20 25 30
 Cys Ser Ala Phe Leu Gln Asp Pro Pro Val Ala Ser Gly Gly Phe Ser
 35 40 45
 Ser Cys His Ile Ser Phe Pro Glu Gly Ala Ser Lys Glu Glu Ala Glu
 50 55 60

Asp Leu Phe Ala Val Ser Ser Glu Asp Trp Glu Ala Val Leu Gly Asp
 65 70 75 80
 Gln Asn Pro Thr Gln Glu Thr Asn Lys Gln Val Ile Pro Glu Trp Thr
 85 90 95
 Trp Leu Gln Ser Trp Pro Leu Ala Ala Leu Phe Leu Gly Ile Gly Leu
 100 105 110
 Leu Ala Phe Ala Phe Leu Ile Leu Leu Phe Ser Thr Asp Ser Gly Leu
 115 120 125
 Val Leu Thr Trp Pro Lys Asn Arg Ala Tyr Phe Tyr Gly Ile Ile Gly
 130 135 140
 Ala Ala Val Ala Tyr Arg Gly Tyr Arg Lys Leu Pro Leu
 145 150 155

<210> 837
 <211> 1218
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0835

<400> 837
 His Asn Ile Met Val Leu Glu Ala Leu Ala Ile Phe Arg Gln Asp Ala
 1 5 10 15
 Met Gln His Leu Leu Lys His Arg Lys Glu Ile Val Val Asp Phe Cys
 20 25 30
 Glu Asp Ser Tyr Thr Ile Arg Ile Pro Asp Glu Glu Ala Pro Glu Gly
 35 40 45
 Tyr Trp Leu Ser Thr Leu Lys Leu Gln Asp Ile Asp Arg Leu Thr Phe
 50 55 60
 Ala Ser Cys Ser Cys Pro Asp Gly Glu Cys Cys Leu His Leu Met Thr
 65 70 75 80
 Ala Tyr Phe Ala Val Tyr Asp Ala Leu Gly Leu His Pro Leu His Asp
 85 90 95
 Lys Phe Arg His Ser Phe Trp Tyr Ala Val Phe Ser His Phe Phe Leu
 100 105 110
 Asp Ser Ile Pro Leu Gln Ala Gln Gly Glu Met Val Tyr Thr Leu Glu
 115 120 125
 Ser Pro His Ile Thr Leu Thr Ile Glu Cys Leu Ser Glu Glu Val Phe
 130 135 140
 Gln Asp Trp Leu Arg Thr Ile His Ala Ser Glu Glu Pro Thr Val Phe
 145 150 155 160
 Thr Asn Lys Thr Phe Leu Lys Ser Ala Leu Tyr Arg Thr Ala Lys Lys
 165 170 175
 Phe Phe Phe Leu Asn Glu Glu Gly Ala Glu Leu Thr Ile Gly Glu Asn
 180 185 190
 Ser Gln Gly Phe Pro Ser His Phe Ser Leu Gln Trp Gln Gly Leu Val
 195 200 205
 Phe Lys Ala Glu Ile Leu Asp Phe Pro Thr Leu Glu Asp Ile Phe Pro
 210 215 220
 Lys Leu Glu Leu Ala His Thr Ser Leu Glu Asn Val Ser His Asp Ile
 225 230 235 240
 Ser Ile Thr Asn Val Thr Val Cys Ala Glu Glu Ala Lys Val Asn Phe
 245 250 255
 Thr Leu Ser Pro Val Ile His Lys Lys Asp Arg Glu Asn His Pro Lys
 260 265 270
 Thr Arg Ile Gly Ser Val Glu Tyr Val Ala Lys Thr His Glu Met Ile
 275 280 285
 Thr Gly Pro Lys Ala Ile Ala Leu Pro Ile Tyr Ala Ile Pro Leu Leu
 290 295 300

Ala Asp Lys Phe Lys Asp Gln Leu Leu Ser Leu Leu Cys Tyr Asp Ser
 305 310 315 320
 Leu Glu Tyr Arg Leu Arg Tyr Asp Ile Arg Leu Leu Arg Asp Ala Ser
 325 330 335
 Phe Ser Phe Ser Ala Tyr Leu Val Thr Pro Gly Asp Leu Asp Asn Gly
 340 345 350
 Ser Leu Ile Tyr Pro Asn Tyr Cys Tyr Ser Pro Thr Lys Gly Leu Met
 355 360 365
 Gln Val Val Gly Met Leu Ser Pro Lys Gln Ala Phe Ile Val Lys Ser
 370 375 380
 Glu Gln Val Glu Asp Phe Leu Asn Glu Arg Gly His Leu Ile Gln Glu
 385 390 395 400
 Pro Gly Phe Gln Thr Phe Ile Asn Glu Arg Pro Glu Gly His Leu Thr
 405 410 415
 Tyr Asn Val Thr Glu Gln Gly Val Leu Leu Phe His Tyr Asp Val Gly
 420 425 430
 Asp Pro Ser Ser Thr Glu Ile Arg Phe Gly Thr Trp Thr Tyr Thr
 435 440 445
 Asn Gln Gly Phe Phe Leu Glu Lys Lys Asn Asp Leu Pro Ile Gln Asp
 450 455 460
 Gly Leu Ile Val Glu Pro Gln Asp Ile Pro Ala Phe Ile Val Lys Asn
 465 470 475 480
 Asp Ala Ala Leu Arg Arg Leu Pro Asn Phe Phe Ser Ser Pro Pro Asn
 485 490 495
 Leu Lys Asp Leu Leu Ile Glu Val His Arg Gln Ser Arg Gly Lys Gly
 500 505 510
 Leu Asp Leu Lys Pro Ile Leu Val Gly Leu Gly Glu Ser Arg Cys Trp
 515 520 525
 Leu Phe Gly Val Phe Leu Tyr Arg Glu Asp Ile Gly Phe Ser Leu Ile
 530 535 540
 Pro Thr Pro Leu Gln Gly Leu Cys Phe Leu Pro Arg Val Ile Pro Pro
 545 550 555 560
 Glu Asn Val Pro Gln Phe Leu Thr Gln Tyr Ala Gln His Glu Arg Ile
 565 570 575
 Leu Phe Pro Asn Pro Gln Thr Arg Pro Pro Glu Ser Tyr Glu Leu Val
 580 585 590
 Ile Gln Ser Ile His Arg Pro His Pro Ala Ser Pro Leu His Leu Gln
 595 600 605
 Leu Glu Leu Lys Thr Asn Leu Gly Ser Val Pro Ile Gly Ile Ala Leu
 610 615 620
 Gln Gly Leu Lys Ser Lys His Thr Phe Leu Phe Thr Gln Ala Gly Phe
 625 630 635 640
 Leu Asp Leu Lys Gln Asn Leu Phe Gln Phe Leu Lys Gln Phe Leu Ser
 645 650 655
 Thr Gln Lys Cys Val Ile Ala Glu Asn Thr Val Ile Ala Asn Ile Thr
 660 665 670
 Asp Val Phe Lys Leu Asp Ala Leu Ala Pro Leu Ser Val Thr Asp Asp
 675 680 685
 Thr Ile Ala Asn Pro Glu Asp Leu Gln Phe Phe Ser Gln Leu Lys Ala
 690 695 700
 Ala Cys Leu Pro Pro Ile Pro Gln Asn Leu Phe Ser Ser Asp His Gln
 705 710 715 720
 Leu Arg Pro Tyr Gln Asn Ser Gly Leu Leu Trp Met Trp Phe Leu Tyr
 725 730 735
 Asn His Arg Leu Ser Gly Leu Leu Cys Asp Glu Met Gly Leu Gly Lys
 740 745 750
 Thr His Gln Ala Thr Ala Leu Leu Asp Ile Val Phe Gln Ser Ser Gln
 755 760 765
 Pro Ser Ala Arg Pro Lys Phe Leu Ile Val Cys Pro Thr Ser Val Leu
 770 775 780

Pro His Trp Glu His Ile Leu Ser Asn His Leu Pro Gly Val Ser Ile
 785 790 795 800
 Phe Ser Phe His Gly Pro Asn Lys Pro Ser Glu Leu Pro Pro Ala Asp
 805 810 815
 Ile Leu Leu Thr Ser Tyr Gly Thr Leu Arg Gln Asn Tyr Asp Lys Phe
 820 825 830
 Tyr Lys Ile Ala Phe Thr Ile Val Val Phe Asp Glu Ile His Met Ala
 835 840 845
 Lys Asn Lys Ser Ser Gln Ile His Lys Ile Leu Cys Arg Ile Asp Ala
 850 855 860
 Gln Met Lys Leu Gly Leu Thr Gly Thr Pro Ile Glu Asn Asn Leu Leu
 865 870 875 880
 Glu Phe Lys Gly Leu Leu Asp Ile Ile Leu Pro Asn Tyr Leu Pro Ser
 885 890 895
 Asp Ala Leu Phe Lys Lys Leu Phe Thr Lys Arg Cys Ser Ser Glu Glu
 900 905 910
 Leu Glu Glu Ile Ile Pro Ser Gln Asp Leu Leu Leu Lys Leu Thr Arg
 915 920 925
 Pro Phe Ile Leu Arg Arg Thr Lys Lys Leu Val Leu Pro Glu Leu Pro
 930 935 940
 Asp Lys Val Glu Ser Ile Ile Ala Cys Ser Leu Ser Pro Asp Gln Glu
 945 950 955 960
 Lys Leu Tyr Met Ala Thr Leu Gln Arg Glu Lys Ser His Ile Gln Lys
 965 970 975
 Leu Glu Thr Pro Glu Glu Pro Ala Thr Asn Phe Leu His Ile Phe Ala
 980 985 990
 Leu Leu Asn His Leu Lys Gln Ile Cys Asp His Pro Ala Val Phe Phe
 995 1000 1005
 Lys Asp Pro Asp Gln Tyr Lys Asn Tyr Glu Ser Gly Lys Trp Asn Ala
 1010 1015 1020
 Phe Val Lys Leu Leu Lys Glu Ser Leu Asn Ala Gly Tyr Lys Val Val
 1025 1030 1035 1040
 Val Phe Ser Gln Tyr Ile His Met Ile Arg Ile Ile Thr Leu Tyr Leu
 1045 1050 1055
 Glu Glu Ile Gly Ile Lys Tyr Ala Ser Ile Gln Gly Lys Ser Leu Asn
 1060 1065 1070
 Arg Lys Glu Glu Ile Glu Thr Phe Thr Thr Asp Pro Asn Cys Gln Val
 1075 1080 1085
 Phe Val Gly Ser Leu Leu Ala Ala Gly Thr Gly Ile Asn Leu Thr Ala
 1090 1095 1100
 Gly Asn Val Val Ile Met Tyr Asp Arg Trp Trp Asn Pro Ala Lys Glu
 1105 1110 1115 1120
 Asn Gln Ala Leu Asp Arg Val His Arg Ile Gly Gln Lys Asn Thr Val
 1125 1130 1135
 Phe Ile Tyr Lys Leu Ile Thr Glu Asp Thr Leu Glu Glu Arg Ile His
 1140 1145 1150
 Tyr Leu Ile Glu Lys Lys Ile Arg Leu Leu Asp Lys Val Ile Ala Ser
 1155 1160 1165
 Gln Asp Ser Asn Ile Leu His Met Leu Asn Arg Glu Asp Leu Leu Thr
 1170 1175 1180
 Ile Leu Ser Tyr Lys Asp Glu His Gly Thr Ser Asp Ser Glu Glu Ser
 1185 1190 1195 1200
 Pro Val Asp Ala Pro Val Glu Asp Asp Thr Gly Val Leu Pro Pro Glu
 1205 1210 1215
 Asp Ser

<210> 838
 <211> 413
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0836

<400> 838

Lys Met Lys Lys Asn Ala Ser His Lys Thr Asn Asp Lys Lys Ser Leu
1 5 10 15
Ser Ile Trp Ser Ile Gly Gly Ser Ile Phe Ala Met Phe Phe Gly Ala
20 25 30
Gly Asn Ile Val Phe Pro Leu Ala Leu Gly Tyr His Tyr Asn Ala His
35 40 45
Pro Trp Ser Ala Tyr Phe Gly Met Met Leu Thr Ala Val Cys Val Pro
50 55 60
Leu Leu Gly Leu Val Ser Met Leu Phe Tyr Ser Gly Asp Tyr Gln Lys
65 70 75 80
Phe Phe Phe Ser Ile Gly Arg Ile Pro Gly Met Ile Phe Ile Thr Ala
85 90 95
Ile Ile Leu Leu Ile Gly Pro Phe Gly Gly Ile Pro Arg Ala Ile Ala
100 105 110
Val Ser His Ala Thr Leu Ile Ser Leu Ser Glu His Lys Ser Ala Phe
115 120 125
Ile Pro Ser Leu Pro Ile Phe Ser Ala Ile Cys Cys Val Leu Ile Tyr
130 135 140
Ile Phe Ser Cys Lys Leu Ser Arg Leu Ile Gln Trp Leu Gly Ser Val
145 150 155 160
Phe Phe Pro Ile Met Leu Val Thr Leu Leu Trp Val Ile Ile Arg Ser
165 170 175
Phe Met Ile Pro Thr His Pro Met Val Gln Glu Phe Ile Pro Asn Ala
180 185 190
Arg Gln Ala Trp Leu Ala Gly Phe Ile Glu Gly Phe Asn Thr Met Asp
195 200 205
Leu Leu Ala Ala Phe Phe Phe Cys Ser Ile Val Leu Ile Ser Leu Arg
210 215 220
Gln Leu Val Ala Glu Glu Lys His Pro Thr Glu Glu Glu Ile Pro Leu
225 230 235 240
Ser Phe Gln Gly Ile Ser Lys Lys Asn Lys Arg Ser Leu Ala Leu Gly
245 250 255
Phe Phe Leu Ala Ala Ile Leu Leu Gly Met Thr Tyr Leu Gly Phe Val
260 265 270
Leu Ser Ala Ala Arg His Ala Gly Leu Leu Val Asn Val Ser Lys Gly
275 280 285
His Ile Leu Gly Arg Ile Ser Ala Ile Ala Leu Gly Pro Asn Ser Ile
290 295 300
Leu Ala Gly Val Ser Val Phe Ile Ala Cys Leu Thr Thr Glu Ile Ala
305 310 315 320
Leu Val Gly Ile Val Ala Asp Phe Leu Ala Arg Val Val Ser Phe Lys
325 330 335
Lys Leu Asn Tyr Ala Ser Ala Val Ile Cys Thr Leu Ile Pro Thr Tyr
340 345 350
Leu Ile Ser Ile Leu Asn Phe Glu Thr Ile Ser His Leu Leu Leu Pro
355 360 365
Leu Leu Gln Leu Ser Tyr Pro Ala Leu Ile Val Leu Ala Cys Gly Asn
370 375 380
Ile Ala Tyr Lys Leu Trp Asn Phe Arg Tyr Ser Pro Val Leu Phe Tyr
385 390 395 400
Leu Thr Leu Ser Leu Thr Ile Val Leu Lys Leu Val Asn
405 410

<210> 839

<211> 211

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0837

<400> 839

Leu Thr Met Lys Gln Phe Ile Leu Arg Thr Leu Asn Ala Leu Phe Pro
1 5 10 15
Asn Pro Lys Pro Ser Leu Glu Gly Trp Ser Ser Pro Phe Gln Leu Leu
20 25 30
Ile Ala Ile Leu Leu Ser Gly Asn Ser Thr Asp Lys Ala Val Asn Ser
35 40 45
Val Thr Pro Gln Leu Phe Ala Lys Ala Pro Asp Ala Gln Ser Ile Leu
50 55 60
Asp Leu Pro Pro Gly Lys Leu Tyr Gln Leu Ile Ala Pro Cys Gly Leu
65 70 75 80
Gly Glu Arg Lys Ser Ala Tyr Ile Tyr Gln Leu Ser Gln Ile Leu Val
85 90 95
Arg Asp Phe His Gly Glu Pro Pro Asn Asp Met Ala Leu Leu Thr Gln
100 105 110
Leu Pro Gly Val Gly Arg Lys Thr Ala Ser Val Phe Leu Gly Ile Ala
115 120 125
Tyr Gly Lys Pro Thr Phe Pro Val Asp Thr His Ile Leu Arg Leu Ala
130 135 140
Gln Arg Trp Lys Ile Ser Glu Lys Lys Ser Pro Ser Ala Ala Glu Lys
145 150 155 160
Asp Leu Ala Arg Phe Phe Gly His Glu Asn Thr Pro Lys Leu His Leu
165 170 175
Gln Leu Ile Tyr Ala Arg Gln Tyr Cys Pro Ala Leu His His Lys
180 185 190
Ile Asp Asn Cys Pro Ile Cys Ser Tyr Leu Ala Lys Glu Ala Asn Ser
195 200 205
Thr Arg Thr
210

<210> 840

<211> 472

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0838

<400> 840

Ile Ser Leu Asn Ile Tyr Pro Asn Ser Phe His Leu Phe Asn Leu Lys
1 5 10 15
Leu Gly Ile Leu Ser Glu Ser Ser Phe Asn Phe Ser Ile Phe Met Leu
20 25 30
Lys His Asp Thr Ile Ala Ala Ile Ala Thr Pro Pro Gly Glu Gly Ser
35 40 45
Ile Ala Val Val Arg Leu Ser Gly Pro Gln Ala Ile Val Ile Ala Asp
50 55 60
Arg Ile Phe Ser Gly Ser Val Ala Ser Phe Ala Ser His Thr Ile His
65 70 75 80
Leu Gly Gln Val Ile Phe Glu Glu Thr Leu Ile Asp Gln Ala Leu Leu
85 90 95
Leu Leu Met Arg Ser Pro Arg Ser Phe Thr Gly Glu Asp Val Val Glu
100 105 110
Phe Gln Cys His Gly Gly Phe Phe Ala Cys Ser Gln Ile Leu Asp Ala
115 120 125
Leu Ile Ala Leu Gly Ala Arg Pro Ala Leu Pro Gly Glu Phe Ser Gln
130 135 140

Arg Ala Phe Leu Asn Gly Lys Ile Asp Leu Val Gln Ala Glu Ala Ile
 145 150 155 160
 Gln Asn Leu Ile Val Ala Glu Asn Ile Asp Ala Phe Arg Ile Ala Gln
 165 170 175
 Thr His Phe Gln Gly Asn Phe Ser Lys Lys Ile Gln Glu Ile His Thr
 180 185 190
 Leu Ile Ile Glu Ala Leu Ala Phe Leu Glu Val Leu Ala Asp Phe Pro
 195 200 205
 Glu Glu Glu Gln Pro Asp Leu Leu Val Pro Gln Glu Lys Ile Gln Asn
 210 215 220
 Ala Leu His Ile Val Glu Asp Phe Ile Ser Ser Phe Asp Glu Gly Gln
 225 230 235 240
 Arg Leu Ala Gln Gly Thr Ser Leu Ile Leu Ala Gly Lys Pro Asn Val
 245 250 255
 Gly Lys Ser Ser Leu Leu Asn Ala Leu Leu Gln Lys Asn Arg Ala Ile
 260 265 270
 Val Thr His Ile Pro Gly Thr Thr Arg Asp Ile Leu Glu Glu Gln Trp
 275 280 285
 Leu Leu Gln Gly Lys Arg Ile Arg Leu Leu Asp Thr Ala Gly Gln Arg
 290 295 300
 Thr Thr Asp Asn Asp Ile Glu Lys Glu Gly Ile Glu Arg Ala Leu Ser
 305 310 315 320
 Ala Met Glu Glu Ala Asp Gly Ile Leu Trp Val Ile Asp Ala Thr Gln
 325 330 335
 Pro Leu Glu Asp Leu Pro Lys Ile Leu Phe Thr Lys Pro Ser Phe Leu
 340 345 350
 Leu Trp Asn Lys Ala Asp Leu Thr Pro Pro Phe Leu Asp Thr Ser
 355 360 365
 Leu Pro Gln Phe Ala Ile Ser Ala Lys Thr Gly Glu Gly Leu Thr Gln
 370 375 380
 Val Lys Gln Ala Leu Ile Gln Trp Met Gln Lys Gln Glu Ala Gly Lys
 385 390 395 400
 Thr Ser Lys Val Phe Leu Val Ser Ser Arg His His Met Ile Leu Gln
 405 410 415
 Glu Val Ala Arg Cys Leu Lys Glu Ala Gln Gln Asn Leu Tyr Leu Gln
 420 425 430
 Pro Pro Glu Ile Ile Ala Leu Glu Leu Arg Glu Ala Leu His Ser Ile
 435 440 445
 Gly Met Leu Ser Gly Lys Glu Val Thr Glu Ser Ile Leu Gly Glu Ile
 450 455 460
 Phe Ser Lys Phe Cys Ile Gly Lys
 465 470

<210> 841
 <211> 310
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0839

<400> 841
 Phe Leu Phe Ile Val Ser Arg Gly Leu Val Gln Lys Pro Gln Tyr Ile
 1 5 10 15
 Asp Arg Ile Thr Lys Lys Lys Val Ile Glu Pro Ile Phe Tyr Glu Lys
 20 25 30
 Thr Met Leu Phe Leu Tyr Asn Ser Lys Leu Gly Lys Lys Leu Ser Val
 35 40 45
 Phe Leu Ser Thr His Pro Ile Phe Ser Arg Ile Tyr Gly Trp Leu Gln
 50 55 60

Arg Cys Ser Trp Thr Arg Arg Gln Ile Arg Pro Phe Met Asn Arg Tyr
 65 70 75 80
 Lys Ile Ser Glu Lys Glu Leu Thr Lys Pro Val Ala Asp Phe Thr Ser
 85 90 95
 Phe Asn Asp Phe Phe Thr Arg Lys Leu Lys Pro Glu Ala Arg Pro Ile
 100 105 110
 Val Gly Gly Lys Glu Val Phe Ile Thr Pro Val Asp Gly Arg Tyr Leu
 115 120 125
 Val Tyr Pro Asn Val Ser Glu Phe Asp Lys Phe Ile Val Lys Ser Lys
 130 135 140
 Ala Phe Ser Leu Pro Lys Leu Leu Gly Asp His Glu Leu Thr Lys Leu
 145 150 155 160
 Tyr Ala His Gly Ser Ile Val Phe Ala Arg Leu Ala Pro Phe Asp Tyr
 165 170 175
 His Arg Phe His Phe Pro Cys Asp Cys Leu Pro Gln Lys Thr Arg Cys
 180 185 190
 Val Asn Gly Ala Leu Phe Ser Val His Pro Leu Ala Val Lys Asp Asn
 195 200 205
 Phe Ile Leu Phe Cys Glu Asn Lys Arg Thr Val Thr Val Leu Glu Thr
 210 215 220
 Glu Gln Phe Gly Asn Val Leu Tyr Leu Glu Val Gly Ala Met Asn Val
 225 230 235 240
 Gly Ser Ile Val Gln Thr Phe Ser Pro Asn Gln Thr Tyr Ala Lys Gly
 245 250 255
 Asp Glu Lys Gly Phe Phe Ala Phe Gly Gly Ser Thr Val Ile Leu Leu
 260 265 270
 Phe Leu Pro Asn Ala Ile Arg Phe Asp Asn Asp Leu Leu Lys Asn Ser
 275 280 285
 Arg Met Gly Phe Glu Thr Arg Cys Leu Met Gly Gln Ser Leu Gly Arg
 290 295 300
 Ser Gln Arg Glu Glu Ile
 305 310

<210> 842
 <211> 468
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0840

<400> 842
 Ile Ser Glu Arg Arg Asn Leu Lys Thr Leu Lys Thr Phe Phe Gly Ile
 1 5 10 15
 Ala Lys Arg Asp Lys Ser Gln Lys Trp Arg Ile Met Trp Leu Val Ile
 20 25 30
 Leu Trp Ala Leu Ala Ala Ser Leu Ala Ile Ala Leu Val Ala Lys Gly
 35 40 45
 Tyr Tyr Arg Phe Val Tyr Phe Arg Arg Tyr Ala Val Gln Val Ile Arg
 50 55 60
 Glu Val Arg Leu Ser Met Glu Leu Lys Glu Trp Ala Leu Ala Glu Gln
 65 70 75 80
 Gln Leu Leu Pro Ile Leu Lys Lys Arg Ser Tyr Arg Arg Gln Cys Leu
 85 90 95
 Phe Glu Tyr Met Arg Ile Leu Arg Lys Met Gln Arg Phe Glu Glu Ser
 100 105 110
 Glu Lys Leu Leu Ala Glu Ala Lys Lys Leu Gly Leu Arg Gly Pro Tyr
 115 120 125
 Phe Phe Leu Glu Ile Ala Tyr Lys Ala Tyr Arg Phe Gly Ala Phe Lys
 130 135 140

Glu Cys Ala Gln Ala Phe Ala Ser Val Pro Gln Asp Leu Phe Glu Glu
 145 150 155 160
 Glu Asp Ala Ala Lys Tyr Ala Ser Ala Leu Val Arg Leu Gly Asp Leu
 165 170 175
 Asp Ala Ala Cys Ser Leu Ile Glu Pro Trp Ile Ser Pro Leu Ser His
 180 185 190
 Gln Glu Thr Phe Val Thr Met Gly His Ile Tyr Phe Thr Ser Lys Arg
 195 200 205
 Tyr Lys Asp Ala Ile Asp Phe Tyr Asn Arg Ala Asn Ala Leu Gly Val
 210 215 220
 Cys Pro Val Glu Val Thr Tyr Asn Leu Ala Gln Ala Tyr Arg Ile Thr
 225 230 235 240
 Ser Ser Tyr Ala Lys Ala Gly Lys Leu Phe Arg Lys Leu Leu Ser Asn
 245 250 255
 Pro Val Tyr Lys Glu Glu Ala Leu Phe Asn Ile Gly Leu Cys Glu Gln
 260 265 270
 Lys Leu Gly Arg Pro Gly Lys Ala Leu Leu Ile Tyr Gln Ser Ser Asp
 275 280 285
 Leu Trp Ser Arg Gly Asp Ala Leu Leu Met Lys Tyr Ala Ala Met Ala
 290 295 300
 Ala Met Asp Gln Arg Asp Tyr Val Leu Ala Glu Pro Cys Trp Glu Leu
 305 310 315 320
 Ala Leu Arg Cys Ser Thr Phe Ala Lys Asp Tyr Lys Cys Gly Leu Gly
 325 330 335
 Tyr Gly Phe Ser Leu Cys Arg Leu Arg Lys Tyr Gly Asp Ala Glu Arg
 340 345 350
 Val Tyr Cys Asn Leu Ile Gln Asn Phe Pro Glu Cys Leu Thr Ala Cys
 355 360 365
 Lys Ala Leu Ala Trp Leu Cys Gly Val Gly Tyr Ala Thr Leu Leu Gly
 370 375 380
 Ser Glu Glu Gly Leu Met Tyr Ala Lys Lys Ala Val Glu Leu Asp His
 385 390 395 400
 Ser Cys Glu Thr Leu Glu Leu Leu Ser Ala Cys Glu Ala Arg Cys Gly
 405 410 415
 Asn Phe Asp Ala Ala Tyr Glu Ile Gln Ser Phe Leu Ser Ser Arg Asp
 420 425 430
 Thr Ser Leu Gln Glu Lys Gln Arg Arg Ser Gln Ile Leu Arg Ile Leu
 435 440 445
 Arg Lys Lys Leu Pro Leu Asn Asp His His Ile Val Glu Val Asp Ala
 450 455 460
 Leu Leu Ala Ala
 465

<210> 843
 <211> 974
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0841

<400> 843
 Ile Lys Arg His Met Leu Gly Phe Leu Lys Arg Phe Phe Gly Ser Ser
 1 5 10 15
 Gln Glu Arg Ile Leu Lys Lys Phe Gln Lys Leu Val Asp Lys Val Asn
 20 25 30
 Ile Tyr Asp Glu Met Leu Thr Pro Leu Ser Asp Asp Glu Leu Arg Asn
 35 40 45
 Lys Thr Ala Glu Leu Lys Gln Arg Tyr Gln Asn Gly Glu Ser Leu Asp
 50 55 60

Ser Met Leu Pro Glu Ala Tyr Gly Val Val Lys Asn Val Cys Arg Arg
 65 70 75 80
 Leu Ala Gly Thr Pro Val Glu Val Ser Gly Tyr His Gln Arg Trp Asp
 85 90 95
 Met Val Pro Tyr Asp Val Gln Ile Leu Gly Ala Ile Ala Met His Lys
 100 105 110
 Gly Phe Ile Thr Glu Met Gln Thr Gly Glu Gly Lys Thr Leu Thr Ala
 115 120 125
 Val Met Pro Leu Tyr Leu Asn Ala Leu Thr Gly Lys Pro Val His Leu
 130 135 140
 Val Thr Val Asn Asp Tyr Leu Ala Gln Arg Asp Cys Glu Trp Val Gly
 145 150 155 160
 Ser Val Leu Arg Trp Leu Gly Leu Thr Thr Gly Val Leu Val Ser Gly
 165 170 175
 Thr Leu Leu Glu Lys Arg Lys Lys Ile Tyr Gln Cys Asp Val Val Tyr
 180 185 190
 Gly Thr Ala Ser Glu Phe Gly Phe Asp Tyr Leu Arg Asp Asn Ser Ile
 195 200 205
 Ala Thr Arg Leu Glu Glu Gln Val Gly Arg Gly Tyr Tyr Phe Ala Ile
 210 215 220
 Ile Asp Glu Val Asp Ser Ile Leu Ile Asp Glu Ala Arg Thr Pro Leu
 225 230 235 240
 Ile Ile Ser Gly Pro Gly Glu Lys His Asn Pro Val Tyr Phe Glu Leu
 245 250 255
 Lys Glu Lys Val Ala Ser Leu Val Tyr Leu Gln Lys Glu Leu Cys Ser
 260 265 270
 Arg Ile Ala Leu Glu Ala Arg Arg Gly Leu Asp Ser Phe Leu Asp Val
 275 280 285
 Asp Ile Leu Pro Lys Asp Lys Lys Val Leu Glu Gly Ile Ser Glu Phe
 290 295 300
 Cys Arg Ser Leu Trp Leu Val Ser Lys Gly Met Pro Leu Asn Arg Val
 305 310 315 320
 Leu Arg Arg Val Arg Glu His Pro Asp Leu Arg Ala Met Ile Asp Lys
 325 330 335
 Trp Asp Val Tyr Tyr His Ala Glu Gln Asn Lys Glu Glu Ser Leu Glu
 340 345 350
 Arg Leu Ser Glu Leu Tyr Ile Ile Val Asp Glu His Asn Asn Asp Phe
 355 360 365
 Glu Leu Thr Asp Lys Gly Met Gln Gln Trp Val Glu Tyr Ala Gly Gly
 370 375 380
 Ser Thr Glu Glu Phe Val Met Met Asp Met Gly His Glu Tyr Ala Leu
 385 390 395 400
 Ile Glu Asn Asp Glu Thr Leu Ser Pro Ala Asp Lys Ile Asn Lys Lys
 405 410 415
 Ile Ala Ile Ser Glu Glu Asp Thr Leu Arg Lys Ala Arg Ala His Gly
 420 425 430
 Leu Arg Gln Leu Leu Arg Ala Gln Leu Leu Met Glu Arg Asp Val Asp
 435 440 445
 Tyr Ile Val Arg Asp Asp Gln Ile Val Ile Ile Asp Glu His Thr Gly
 450 455 460
 Arg Pro Gln Pro Gly Arg Arg Phe Ser Glu Gly Leu His Gln Ala Ile
 465 470 475 480
 Glu Ala Lys Glu His Val Thr Ile Arg Lys Glu Ser Gln Thr Leu Ala
 485 490 495
 Thr Val Thr Leu Gln Asn Phe Phe Arg Leu Tyr Glu Lys Leu Ala Gly
 500 505 510
 Met Thr Gly Thr Ala Ile Thr Glu Ser Arg Glu Phe Lys Glu Ile Tyr
 515 520 525
 Asn Leu Tyr Val Leu Gln Val Pro Thr Phe Lys Pro Cys Leu Arg Ile
 530 535 540

Asp His Asn Asp Glu Phe Tyr Met Thr Glu Arg Glu Lys Tyr His Ala
 545 550 555 560
 Ile Val Asn Glu Ile Ala Thr Ile His Gly Lys Gly Asn Pro Ile Leu
 565 570 575
 Val Gly Thr Glu Ser Val Glu Val Ser Glu Lys Leu Ser Arg Ile Leu
 580 585 590
 Arg Gln Asn Arg Ile Glu His Thr Val Leu Asn Ala Lys Asn His Ala
 595 600 605
 Gln Glu Ala Glu Ile Ile Ala Gly Ala Gly Lys Leu Gly Ala Val Thr
 610 615 620
 Val Ala Thr Asn Met Ala Gly Arg Gly Thr Asp Ile Lys Leu Asp Asn
 625 630 635 640
 Glu Ala Val Ile Val Gly Gly Leu His Val Ile Gly Thr Thr Arg His
 645 650 655
 Gln Ser Arg Arg Ile Asp Arg Gln Leu Arg Gly Arg Cys Ala Arg Leu
 660 665 670
 Gly Asp Pro Gly Ala Ala Lys Phe Phe Leu Ser Phe Glu Asp Arg Leu
 675 680 685
 Met Arg Leu Phe Ala Ser Pro Lys Leu Asn Thr Leu Ile Arg His Phe
 690 695 700
 Arg Pro Pro Glu Gly Glu Ala Met Ser Asp Pro Met Phe Asn Arg Leu
 705 710 715 720
 Ile Glu Thr Ala Gln Lys Arg Val Glu Gly Arg Asn Tyr Thr Ile Arg
 725 730 735
 Lys His Thr Leu Glu Tyr Asp Asp Val Met Asn Lys Gln Arg Gln Ala
 740 745 750
 Ile Tyr Ala Phe Arg His Asp Val Leu His Ala Glu Ser Val Phe Asp
 755 760 765
 Leu Ala Lys Glu Ile Leu Cys His Val Ser Leu Met Val Ala Ser Leu
 770 775 780
 Val Met Ser Asp Arg Gln Phe Lys Gly Trp Thr Leu Pro Asn Leu Glu
 785 790 795 800
 Glu Trp Ile Thr Ser Ser Phe Pro Ile Ala Leu Asn Ile Glu Glu Leu
 805 810 815
 Arg Gln Leu Lys Asp Thr Asp Ser Ile Ala Glu Lys Ile Ala Ala Glu
 820 825 830
 Leu Ile Gln Glu Phe Gln Val Arg Phe Asp His Met Val Glu Gly Leu
 835 840 845
 Ser Lys Ala Gly Gly Glu Glu Leu Asp Ala Ser Ala Ile Cys Arg Asp
 850 855 860
 Val Val Arg Ser Val Met Val Met His Ile Asp Glu Gln Trp Arg Ile
 865 870 875 880
 His Leu Val Asp Met Asp Leu Leu Arg Ser Glu Val Gly Leu Arg Thr
 885 890 895
 Val Gly Gln Lys Asp Pro Leu Leu Glu Phe Lys His Glu Ser Phe Leu
 900 905 910
 Leu Phe Glu Ser Leu Ile Arg Asp Ile Arg Ile Thr Ile Ala Arg His
 915 920 925
 Leu Phe Arg Leu Glu Leu Thr Val Glu Pro Asn Pro Arg Val Asn Asn
 930 935 940
 Val Ile Pro Thr Val Ala Thr Ser Phe His Asn Asn Val Asn Tyr Gly
 945 950 955 960
 Pro Leu Glu Leu Thr Val Val Thr Asp Ser Glu Asp Gln Asp
 965 970

<210> 844

<211> 103

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0842

<400> 844

Lys Tyr Tyr Thr Pro Pro Thr Ile Ser Arg Ser Pro Trp Ser Asn Ile
1 5 10 15
Ala Leu Lys Thr Ile Ser Glu Ser Glu Tyr Asp Cys Asn Gln Gln Leu
20 25 30
Leu Lys Thr Gln Ser Leu Leu Thr Thr Asn Val Asp Thr Leu Leu Asn
35 40 45
Ala Pro Lys Asp Phe Pro Asn Ser Lys Asn Gln Lys His Ile Leu Phe
50 55 60
Cys Ile Ala Asn Asn Thr Leu Ser His Tyr Ala Gln Phe Leu Ile Ala
65 70 75 80
Gly Asn Arg Arg Lys Phe Trp Ile Arg Tyr Tyr Asn Asp Gln Val Trp
85 90 95
Ser Glu Trp Thr Pro Phe Ile
100

<210> 845

<211> 79

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0843

<400> 845

Asn Lys Asn Lys Leu Ile Ile Ser Trp Arg Phe Lys Val Met Asn Tyr
1 5 10 15
Asp Gln Tyr Asp Thr Pro Asp Thr Asp His Asp Gln Ile Phe Glu Asp
20 25 30
Leu Leu Asp Asn Ser Glu Glu Ala Ala Ser Leu Asp Lys Tyr Gln Glu
35 40 45
Thr Gly Val Tyr Val Glu Glu Asn Thr Asp Gln Gly Asp Leu Leu Ile
50 55 60
Val Leu Gly Glu Ser Val Phe Lys Asn Thr Ile His Gln Glu Gln
65 70 75

<210> 846

<211> 494

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0844

<400> 846

Lys Asn Arg Ile Glu Thr Ile Met Leu Lys Ile Ala Ile Leu Gly Arg
1 5 10 15
Pro Asn Val Gly Lys Ser Ser Leu Phe Asn Arg Leu Cys Lys Arg Ser
20 25 30
Leu Ala Ile Val Asn Ser Gln Glu Gly Thr Thr Arg Asp Arg Leu Tyr
35 40 45
Gly Glu Leu His Ala Phe Gly Val Pro Ala Gln Val Ile Asp Thr Gly
50 55 60
Gly Val Asp His Asn Ser Glu Asp Tyr Phe Gln Lys His Ile Tyr Asn
65 70 75 80
Gln Ala Leu Thr Gly Ala Lys Glu Ala Asp Val Leu Leu Leu Val Ile
85 90 95

Asp Ile Arg Cys Gly Ile Thr Glu Glu Asp Ala His Leu Ala Lys Leu
 100 105 110
 Leu Leu Pro Leu Lys Lys Pro Leu Ile Leu Val Ala Asn Lys Ala Asp
 115 120 125
 Ser Arg Gln Glu Glu Leu Gln Ile His Glu Thr Tyr Lys Leu Gly Ile
 130 135 140
 Arg Asp Ile Val Val Thr Ser Thr Ala His Asp Lys His Ile Asp Thr
 145 150 155 160
 Leu Leu Gln Arg Ile Lys Leu Val Ala Asn Leu Pro Glu Pro Arg Glu
 165 170 175
 Glu Glu Glu Glu Gly Leu Glu Glu Leu Ser Val Asp Glu His Glu Glu
 180 185 190
 Ser Glu Ala Ala Leu Pro Ser Asn Thr Phe Pro Asp Phe Ser Glu Val
 195 200 205
 Phe Thr Glu Gly Phe Ser Pro Glu Glu Pro Cys Thr Ile Pro Glu Ser
 210 215 220
 Pro Gln Gln Ala Pro Lys Thr Leu Lys Ile Ala Leu Ile Gly Arg Pro
 225 230 235 240
 Asn Val Gly Lys Ser Ser Ile Ile Asn Gly Leu Leu Asn Glu Glu Arg
 245 250 255
 Cys Ile Ile Asp Asn Thr Pro Gly Thr Thr Arg Asp Asn Ile Asp Ile
 260 265 270
 Leu Tyr Ser His Lys Asp Arg Gln Tyr Leu Phe Ile Asp Thr Ala Gly
 275 280 285
 Leu Arg Lys Met Lys Ser Val Lys Asn Ser Ile Glu Trp Ile Ser Ser
 290 295 300
 Ser Arg Thr Glu Lys Ala Ile Ser Arg Ala Asp Ile Cys Leu Leu Val
 305 310 315 320
 Ile Asp Ala Thr Gln Lys Leu Ser Ser Tyr Glu Lys Arg Ile Leu Ser
 325 330 335
 Leu Ile Ser Lys Arg Lys Lys Pro His Ile Ile Leu Ile Asn Lys Trp
 340 345 350
 Asp Leu Leu Glu Glu Val Arg Met Glu His Tyr Cys Lys Asp Leu Arg
 355 360 365
 Ala Thr Asp Pro Tyr Leu Gly Gln Ala Lys Met Leu Cys Ile Ser Ala
 370 375 380
 Thr Thr Lys Arg Asn Leu Lys Lys Ile Phe Ser Ala Ile Asp Glu Leu
 385 390 395 400
 His His Val Val Ser Asn Lys Val Pro Thr Pro Ile Val Asn Lys Thr
 405 410 415
 Leu Ala Ser Ala Leu His Arg Asn His Pro Gln Val Ile Gln Gly Arg
 420 425 430
 Arg Leu Arg Ile Tyr Tyr Ala Ile Gln Lys Thr Thr Thr Pro Leu Gln
 435 440 445
 Phe Leu Leu Phe Ile Asn Ala Lys Ser Leu Leu Thr Lys His Tyr Glu
 450 455 460
 Tyr Tyr Leu Lys Asn Thr Leu Lys Ser Ser Phe Asn Leu Tyr Gly Ile
 465 470 475 480
 Pro Phe Asp Leu Glu Phe Lys Glu Lys Pro Lys Arg His Asn
 485 490

<210> 847
 <211> 434
 <212> PRT
 <213> Chlamydia pneumoniae

 <220>
 <223> CPn0845

<400> 847

Ser Ala Asn Asn Tyr Gln Lys Asp Pro Arg Ser Tyr Arg Leu Ala Leu
1 5 10 15
Phe Ser Ser Tyr Phe Arg Gly Val Met Thr Thr Ile Ala Ile Glu Ala
20 25 30
Ala Lys Lys Val Leu Ile Lys Leu Arg Asn Ala Gly Tyr Gln Ala Tyr
35 40 45
Phe Val Gly Gly Cys Val Arg Asp Met Leu Met Asn Arg Pro Leu Glu
50 55 60
Asp Ile Asp Ile Ala Thr Asn Ala Ser Pro Thr Ile Val Ser Thr Ile
65 70 75 80
Phe Pro Asp Val Ile Ser Ile Gly Val Ala Phe Gly Ile Ile Val Val
85 90 95
Lys Gln Asp Gly Arg Leu Phe Glu Val Ala Thr Phe Arg Ser Asp Gly
100 105 110
Glu Tyr Lys Asp Gly Arg His Pro Asp Arg Ile Ile Phe Ser Ser Met
115 120 125
Arg Glu Asp Ala Leu Arg Arg Asp Phe Thr Val Asn Gly Met Tyr Tyr
130 135 140
Asp Pro Phe Glu Asp Lys Val Phe Asp Phe Val Glu Gly Thr Arg Asp
145 150 155 160
Ile Glu Lys Lys Val Ile Arg Ala Ile Gly His Pro Arg Leu Arg Phe
165 170 175
Ser Glu Asp Lys Leu Arg Ile Leu Arg Ala Ile Arg Phe Ser Ser Ser
180 185 190
Leu Gly Phe Thr Leu Asp Pro Thr Thr Glu Arg Ala Ile Ile Lys Glu
195 200 205
Ala Pro Ala Leu Val Asn Ser Val Ser Pro Glu Arg Ile Trp Gln Glu
210 215 220
Leu Lys Lys Met Leu Lys Arg Gln Pro Tyr Gly Ala Leu Ser Leu Leu
225 230 235 240
Leu Lys Leu Lys Val Leu Ile Phe Ile Phe Pro Glu Leu Arg Asp Ile
245 250 255
Pro Tyr Ser Leu Leu Arg Thr Thr Ile Glu Phe Ala Arg Lys Phe Asn
260 265 270
Pro Thr His Phe Pro Glu Ile Leu Phe Leu Leu Pro Leu Phe Gln Gly
275 280 285
Val Ser Glu Glu Ala Ala Thr Val Ala Phe Gly Arg Leu Arg Ile Ser
290 295 300
Asn Lys Glu Leu Lys Leu Ile Glu Ser Trp Tyr Glu Ala Leu Pro His
305 310 315 320
Phe Gln Asn Gln Ser Gly Asn Arg Val Phe Trp Ala His Phe Leu Ala
325 330 335
Ser Pro Thr Ala Pro Leu Phe Leu Glu Leu Phe Ser Ala Leu Gln Lys
340 345 350
Asp Pro Ser Arg Gln Gln His Phe Ile Ser Arg Val Gln Glu Leu Glu
355 360 365
Ser Arg Leu Glu Gln Phe Ile Leu Arg Ile Lys Thr Ser Ser Pro Val
370 375 380
Val Ser Ala Pro Asp Leu Ile Ala Lys Gly Ile Ser Pro Gly Arg Leu
385 390 395 400
Leu Gly Asp Leu Leu Arg Glu Ala Glu Ile Leu Ser Ile Glu Asn Glu
405 410 415
Cys Leu Asp Lys Glu Lys Ile Leu Leu Leu Gln Glu Lys Gly Phe
420 425 430
Trp Lys

<210> 848
 <211> 424
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0846

<400> 848
 Arg Glu His Met Asn Lys Lys Asn Leu Thr Ile Cys Ser Phe Cys Gly
 1 5 10 15
 Arg Ser Glu Lys Asp Val Glu Lys Leu Ile Ala Gly Pro Ser Val Tyr
 20 25 30
 Ile Cys Asp Tyr Cys Ile Lys Leu Cys Ser Gly Ile Leu Asp Lys Lys
 35 40 45
 Pro Ser Ser Thr Ile Ser Ser Ala Pro Val Ser Glu Thr Pro Ser Gln
 50 55 60
 Pro Ser Asp Leu Arg Val Leu Thr Pro Lys Glu Ile Lys Lys His Ile
 65 70 75 80
 Asp Glu Tyr Val Ile Gly Gln Glu Arg Ala Lys Lys Thr Ile Ala Val
 85 90 95
 Ala Val Tyr Asn His Tyr Lys Arg Ile Arg Ala Leu Leu His Asn Lys
 100 105 110
 Gln Val Ser Tyr Gly Lys Ser Asn Val Leu Leu Leu Gly Pro Thr Gly
 115 120 125
 Ser Gly Lys Thr Leu Ile Ala Lys Thr Leu Ala Lys Ile Leu Asp Val
 130 135 140
 Pro Phe Thr Ile Ala Asp Ala Thr Thr Leu Thr Glu Ala Gly Tyr Val
 145 150 155 160
 Gly Glu Asp Val Glu Asn Ile Val Leu Arg Leu Leu Gln Ala Ala Asp
 165 170 175
 Tyr Asp Val Ala Arg Ala Glu Arg Gly Ile Ile Tyr Ile Asp Glu Ile
 180 185 190
 Asp Lys Ile Gly Arg Thr Thr Ala Asn Val Ser Ile Thr Arg Asp Val
 195 200 205
 Ser Gly Glu Gly Val Gln Gln Ala Leu Leu Lys Ile Val Glu Gly Thr
 210 215 220
 Thr Ala Asn Val Pro Pro Lys Gly Gly Arg Lys His Pro Asn Gln Glu
 225 230 235 240
 Tyr Ile Arg Val Asn Thr Glu Asn Ile Leu Phe Ile Val Gly Gly Ala
 245 250 255
 Phe Val Asn Leu Asp Lys Ile Ile Ala Lys Arg Leu Gly Lys Thr Thr
 260 265 270
 Ile Gly Phe Ser Asp Asp Gln Ala Asp Leu Ser Gln Lys Thr Arg Asp
 275 280 285
 His Leu Leu Ala Lys Val Glu Thr Glu Asp Leu Ile Ala Phe Gly Met
 290 295 300
 Ile Pro Glu Phe Val Gly Arg Phe Asn Cys Ile Val Asn Cys Glu Glu
 305 310 315 320
 Leu Ser Leu Asp Glu Leu Val Ala Ile Leu Thr Glu Pro Thr Asn Ala
 325 330 335
 Ile Val Lys Gln Tyr Met Glu Leu Phe Ala Glu Glu Asn Val Lys Leu
 340 345 350
 Val Phe Lys Lys Glu Ala Leu Tyr Ala Ile Ala Lys Lys Ala Lys Gln
 355 360 365
 Ala Lys Thr Gly Ala Arg Ala Leu Gly Met Ile Leu Glu Asn Leu Leu
 370 375 380
 Arg Asp Leu Met Phe Glu Ile Pro Ser Asp Pro Thr Val Glu Ala Ile
 385 390 395 400
 His Ile Gln Glu Asp Thr Ile Ala Glu Asn Lys Ala Pro Ile Ile Ile
 405 410 415

Arg Arg Thr Pro Glu Ala Ile Ala
420

<210> 849
<211> 211
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0847

<400> 849
Lys Leu Phe Asp Glu Glu Thr Gln Met Thr Leu Val Pro Tyr Val Val
1 5 10 15
Glu Asp Thr Gly Arg Gly Glu Arg Ala Met Asp Ile Tyr Ser Arg Leu
20 25 30
Leu Lys Asp Arg Ile Val Met Ile Gly Gln Glu Ile Thr Glu Pro Leu
35 40 45
Ala Asn Thr Val Ile Ala Gln Leu Leu Phe Leu Met Ser Glu Asp Pro
50 55 60
Lys Lys Asp Ile Gln Ile Phe Ile Asn Ser Pro Gly Gly Tyr Ile Thr
65 70 75 80
Ala Gly Leu Ala Ile Tyr Asp Thr Ile Arg Phe Leu Gly Cys Asp Val
85 90 95
Asn Thr Tyr Cys Ile Gly Gln Ala Ala Ser Met Gly Ala Leu Leu Leu
100 105 110
Ser Ala Gly Thr Lys Gly Lys Arg His Ala Leu Pro His Ser Arg Met
115 120 125
Met Ile His Gln Pro Ser Gly Gly Ile Ile Gly Thr Ser Ala Asp Ile
130 135 140
Gln Leu Gln Ala Ala Glu Ile Leu Thr Leu Lys Lys His Leu Ala Asn
145 150 155 160
Ile Leu Ser Glu Cys Thr Gly Gln Pro Val Glu Lys Ile Ile Glu Asp
165 170 175
Ser Glu Arg Asp Phe Phe Met Gly Ala Glu Glu Ala Ile Ser Tyr Gly
180 185 190
Leu Ile Asp Lys Val Val Thr Ser Ala Lys Glu Thr Asn Lys Asp Thr
195 200 205
Ser Ser Thr
210

<210> 850
<211> 460
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0848

<400> 850
Val Gln Ala Ser Ser Pro Ala Phe Pro Phe Lys Ser Asn Lys Lys Gly
1 5 10 15
Cys Leu Val Pro Arg Ser Leu Ser Asn Glu Gln Phe Ser Val Asp Leu
20 25 30
Glu Glu Ser Pro Gly Cys Ile Val Ser Ala Leu Val Lys Val Ser Pro
35 40 45
Glu Val Leu Asn Lys Leu Asn Lys Gln Ala Leu Lys Lys Ile Lys Lys
50 55 60
Glu Ile Thr Leu Pro Gly Phe Arg Lys Gly Lys Ala Pro Asp Asp Val
65 70 75 80

Ile Ala Ser Arg Tyr Pro Thr Asn Val Arg Lys Glu Leu Gly Glu Leu
 85 90 95
 Val Thr Gln Asp Ala Tyr His Ala Leu Ser Thr Val Gly Asp Arg Arg
 100 105 110
 Pro Leu Ser Pro Lys Ala Val Arg Ser Asn Ser Ile Thr Gln Phe Asp
 115 120 125
 Leu Gln Glu Gly Ala Lys Val Glu Phe Ser Tyr Glu Ala Phe Pro Ala
 130 135 140
 Ile Ser Asp Leu Pro Trp Glu Asn Leu Ser Leu Pro Gln Glu Glu Ala
 145 150 155 160
 Ala Ser Glu Ile Ser Asp Ser Asp Ile Glu Lys Gly Leu Thr Asn Ile
 165 170 175
 Gly Met Phe Phe Ala Thr Lys Thr Pro Val Glu Arg Pro Ser Gln Glu
 180 185 190
 Gly Asp Phe Ile Ser Ile Ser Leu His Val Ser Lys Ser Asn Asp Glu
 195 200 205
 Asn Ala Ser Ser Ala Ala Ile Phe Glu Asn Lys Tyr Phe Lys Leu Ser
 210 215 220
 Glu Glu Glu Met Thr Asp Ala Phe Lys Glu Lys Phe Leu Gly Ile Ser
 225 230 235 240
 Thr Gly His Arg Val Val Glu Thr Ile Thr Ser Pro Glu Ile Gln Ser
 245 250 255
 Phe Leu Arg Gly Asp Thr Leu Thr Phe Thr Val Asn Ala Val Ile Glu
 260 265 270
 Val Ser Ile Pro Glu Ile Asp Asp Glu Lys Ala Arg Gln Leu Gln Ala
 275 280 285
 Glu Ser Leu Asp Asp Leu Lys Ala Lys Leu Arg Ile Gln Leu Glu Lys
 290 295 300
 Gln Ala Lys Asp Lys Gln Leu Gln Lys Arg Phe Ser Glu Ala Glu Asp
 305 310 315 320
 Ala Leu Ala Met Leu Val Asp Phe Glu Leu Pro Thr Ser Leu Leu Glu
 325 330 335
 Glu Arg Ile Ser Leu Ile Thr Arg Glu Lys Leu Leu Asn Ala Arg Leu
 340 345 350
 Ile Gln Tyr Cys Ser Asp Glu Glu Leu Glu Lys Arg Lys Ser Glu Leu
 355 360 365
 Ile Lys Glu Ala Glu Glu Asp Ala Thr Lys Ala Leu Lys Leu Leu Phe
 370 375 380
 Leu Thr His Lys Ile Phe Ser Asp Glu Lys Leu Thr Ile Ser Arg Glu
 385 390 395 400
 Glu Leu Gln Tyr Met Met Asp Val Cys Ser Arg Glu Arg Phe Gly Gln
 405 410 415
 Gln Pro Pro Lys Asp Ile Ser Asn Asp Thr Leu Gln Glu Leu Val Met
 420 425 430
 Ser Ala Arg Asp Arg Leu Thr Tyr Ser Lys Ala Ile Glu His Val Leu
 435 440 445
 Arg Lys Ala Glu Leu Leu Ala Ser Thr Pro Ser Ala
 450 455 460

<210> 851
 <211> 1178
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0849

<400> 851
 Ala Asp Tyr Ile Ile His Ser Tyr Ser Arg Gly Glu Met Leu Asn Phe
 1 5 10 15

Arg Lys Leu Arg Arg Asp Phe Ser Ala Asn Ile Leu Gln Asp Gly Lys
 20 25 30
 Lys Leu Phe Glu Gln Gly Ala Val Ile Asp Ala Lys Ile Leu Ser Met
 35 40 45
 Asn Gly Glu Thr Val Cys Ile Ser Ala Gln Val Arg Gly Leu Tyr Asp
 50 55 60
 Asn Ile Tyr Glu Cys Glu Ile Glu Val Asp Arg Ser Glu Ser Asp Thr
 65 70 75 80
 Val Asp Ser Asn Cys Asp Cys Ser Tyr Asn Tyr Asp Cys Gln His Ile
 85 90 95
 Val Ala Leu Leu Phe Tyr Leu Glu Gln Tyr Phe Asn Glu Met Val Val
 100 105 110
 Ala Tyr Ala Arg Ser Ala Asp Leu Glu Thr Asp His Glu Ile Asn Glu
 115 120 125
 Glu Val Lys Lys Glu Leu Lys Glu Thr Phe Val Ala Ala Ala Thr Lys
 130 135 140
 Glu Glu Glu Arg Lys Asp Arg Glu His Gln Lys Glu Ile Leu Arg Glu
 145 150 155 160
 Tyr Val His Ala Ala Asn Ala Leu Ser Ala Asn Pro Phe Phe Leu Pro
 165 170 175
 Leu Glu Tyr Leu Glu Lys Asp Ser Ala Glu Leu Ala Val Leu Phe Val
 180 185 190
 Ser Val Asn Glu Asp Thr Phe Ala Pro Ala Asn Gln Pro Ile Glu Phe
 195 200 205
 Gln Leu Val Leu Arg Leu Pro Cys Arg Ser Lys Pro Phe Tyr Ile Ser
 210 215 220
 Asn Ile Arg Thr Phe Leu Glu Gly Val Leu Tyr Gln Glu Pro Ile Val
 225 230 235 240
 Leu Asn Gly Arg Arg Phe Phe Phe Thr Met Gln Ser Phe Asn Ala Ser
 245 250 255
 Asp Arg Lys Leu Ile Asp Leu Leu Ile Arg Tyr Val Arg Tyr Pro Asn
 260 265 270
 His Thr Thr Glu Glu Lys Leu Leu Lys Ser Ala Tyr Leu Met Pro Pro
 275 280 285
 Ala Leu Gly Val Ile Leu Ala Lys Met Phe Glu His Gln Leu Ala Asp
 290 295 300
 Arg Gly Gly Gly Ser Leu Gly Glu Lys Glu Ser Phe Ser Gly Leu Phe
 305 310 315 320
 Cys Gly Asn Leu Glu Glu Pro Leu Cys Trp Ser Leu Thr Pro Ala Lys
 325 330 335
 Met Lys Phe Asn Leu Asp Phe Phe Asp Met Pro Tyr Lys Ala Leu Leu
 340 345 350
 Met Thr Pro Val Ile Leu Val Asp Asp Asp Glu Val Gln Pro Glu Gln
 355 360 365
 Thr Met Leu Leu Glu Ser Asp Ala Pro Gly Ile Ile His His Phe Val
 370 375 380
 Tyr His Arg Phe Ser Pro Gln Ile Lys Arg Ala His Leu Arg Ser Phe
 385 390 395 400
 Ser Arg Leu Arg Asp Ile Ala Ile Pro Glu Ala Leu Phe Gly Ser Phe
 405 410 415
 Arg Glu Asn Ala Leu Pro Val Phe Gln Glu Tyr Ala Glu Ile Ala Asn
 420 425 430
 Val His Leu Leu Asn Ser Phe Val Thr Leu Pro Tyr Val Asp Glu Val
 435 440 445
 Arg Ala Ile Cys Asp Met Ser Tyr Leu Asp Gly Glu Leu Glu Ala Lys
 450 455 460
 Leu His Phe Leu Tyr Gly Ser Leu Arg Val Pro Ala Ala Ser Leu Ala
 465 470 475 480
 Leu Gln Tyr Gln Asp Val Arg Ala Phe Ile Ser Asp Glu Gly Ile Leu
 485 490 495

Ala Arg Asn Leu Val Glu Glu Arg Lys Met Leu Glu Glu Val Phe Ser
 500 505 510
 Gly Phe Ile Tyr Asp Glu Arg Asp Gly Ala Phe Arg Val Lys Ser Glu
 515 520 525
 Lys Lys Ile Val Glu Phe Met Thr Glu Thr Ile Pro Ala Asn Gln His
 530 535 540
 Arg Ile Thr Phe Asn Cys Pro Glu Asn Leu Ser Gly Gln Phe Ile Tyr
 545 550 555 560
 Asp Glu Thr Ile Phe Glu Leu Ser Phe Arg Glu Gly Ser Asp Ile Asn
 565 570 575
 Tyr Tyr Glu Ala Asp Leu Lys Val His Gly Leu Leu Lys Gly Val Pro
 580 585 590
 Leu Asp Leu Leu Trp Asp Cys Ile Ser Ala Lys Lys Arg Phe Leu Glu
 595 600 605
 Leu Pro Lys Ala Gly Gln Gln Ser Lys Gly Thr Arg Arg Gly Lys Val
 610 615 620
 Asn Ser Gly Lys Leu Pro Cys Ile Leu Val Leu Asp Leu Glu Lys Ile
 625 630 635 640
 Ala Pro Val Val Gln Ile Phe Asn Glu Ile Gly Phe Lys Val Leu Asp
 645 650 655
 Asp Leu Val Gln Lys Cys Pro Leu Trp Ser Leu Thr Gly Ile Ser Leu
 660 665 670
 Asp Gln Phe Glu Ala Leu Pro Val Asn Phe Ser Met Ser Glu Arg Leu
 675 680 685
 Ile Glu Ile Gln Lys Gln Ile Arg Gly Glu Ile Glu Phe Asp Phe Gln
 690 695 700
 Asp Val Pro Gln Gln Ile Gln Ala Thr Leu Arg Ser Tyr Gln Thr Glu
 705 710 715 720
 Gly Val His Trp Leu Glu Arg Leu Arg Lys Met His Leu Asn Gly Ile
 725 730 735
 Leu Ala Asp Asp Met Gly Leu Gly Lys Thr Leu Gln Ala Ile Ile Ala
 740 745 750
 Val Thr Gln Ser Lys Leu Glu Lys Gly Ser Gly Cys Ser Leu Ile Val
 755 760 765
 Cys Pro Thr Ser Leu Val Tyr Asn Trp Lys Glu Glu Phe Arg Lys Phe
 770 775 780
 Asn Pro Glu Phe Arg Thr Leu Val Ile Asp Gly Val Pro Ser Gln Arg
 785 790 795 800
 Arg Lys Gln Leu Thr Ala Leu Ala Asp Arg Asp Val Ala Ile Thr Ser
 805 810 815
 Tyr Asn Leu Leu Gln Lys Asp Val Glu Leu Tyr Lys Ser Phe Arg Phe
 820 825 830
 Asp Tyr Val Val Leu Asp Glu Ala His His Ile Lys Asn Arg Thr Thr
 835 840 845
 Arg Asn Ala Lys Ser Val Lys Met Ile Gln Ser Asp His Arg Leu Ile
 850 855 860
 Leu Thr Gly Thr Pro Ile Glu Asn Ser Leu Glu Glu Leu Trp Ser Leu
 865 870 875 880
 Phe Asp Phe Leu Met Pro Gly Leu Leu Ser Ser Tyr Asp Arg Phe Val
 885 890 895
 Gly Lys Tyr Ile Arg Thr Gly Asn Tyr Met Gly Asn Lys Ala Asp Asn
 900 905 910
 Met Val Ala Leu Lys Lys Lys Val Ser Pro Phe Ile Leu Arg Arg Met
 915 920 925
 Lys Glu Asp Val Leu Lys Asp Leu Pro Pro Val Ser Glu Ile Leu Tyr
 930 935 940
 His Cys His Leu Thr Glu Ser Gln Lys Glu Leu Tyr Gln Ser Tyr Ala
 945 950 955 960
 Ala Ser Ala Lys Gln Glu Leu Ser Arg Leu Val Lys Gln Glu Gly Phe
 965 970 975

Glu Arg Ile His Ile His Val Leu Ala Thr Leu Thr Arg Leu Lys Gln
 980 985 990
 Ile Cys Cys His Pro Ala Ile Phe Ala Lys Asp Ala Pro Glu Pro Gly
 995 1000 1005
 Asp Ser Ala Lys Tyr Asp Met Leu Met Asp Leu Leu Ser Ser Leu Val
 1010 1015 1020
 Asp Ser Gly His Lys Thr Val Val Phe Ser Gln Tyr Thr Lys Met Leu
 1025 1030 1035 1040
 Gly Ile Ile Lys Lys Asp Leu Glu Ser Arg Gly Ile Pro Phe Val Tyr
 1045 1050 1055
 Leu Asp Gly Ser Thr Lys Asn Arg Leu Asp Leu Val Asn Gln Phe Asn
 1060 1065 1070
 Glu Asp Pro Ser Leu Leu Val Phe Leu Ile Ser Leu Lys Ala Gly Gly
 1075 1080 1085
 Thr Gly Leu Asn Leu Val Gly Ala Asp Thr Val Ile His Tyr Asp Met
 1090 1095 1100
 Trp Trp Asn Pro Ala Val Glu Asn Gln Ala Thr Asp Arg Val His Arg
 1105 1110 1115 1120
 Ile Gly Gln Ser Arg Ser Val Ser Ser Tyr Lys Leu Val Thr Leu Asn
 1125 1130 1135
 Thr Ile Glu Glu Lys Ile Leu Thr Leu Gln Asn Arg Lys Lys Ser Leu
 1140 1145 1150
 Val Lys Lys Val Ile Asn Ser Asp Asp Glu Val Val Ser Lys Leu Thr
 1155 1160 1165
 Trp Glu Glu Val Leu Glu Leu Leu Gln Ile
 1170 1175

<210> 852
 <211> 379
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0850

<400> 852
 Leu Gly Lys Lys Tyr Trp Asn Cys Cys Arg Tyr Asp Phe Met Ser Pro
 1 5 10 15
 His Arg Asn Leu Phe Lys Leu Lys Asn Phe Ser Asn Arg Leu Tyr Asn
 20 25 30
 Arg Ala Leu Gly Arg Phe Asp Lys Val Phe Asn Phe Phe Ser Gly Asn
 35 40 45
 Val Gly Ile Asp Leu Gly Thr Ala Asn Thr Leu Val Tyr Val Arg Gly
 50 55 60
 Arg Gly Ile Val Leu Ser Glu Pro Ser Val Val Ala Val Asp Ala Gln
 65 70 75 80
 Thr His Ala Val Leu Ala Val Gly His Lys Ala Lys Ala Met Leu Gly
 85 90 95
 Lys Thr Pro Arg Lys Ile Met Ala Val Arg Pro Met Lys Asp Gly Val
 100 105 110
 Ile Ala Asp Phe Glu Ile Ala Glu Gly Met Leu Lys Ala Leu Ile Lys
 115 120 125
 Arg Val Thr Pro Ser Arg Ser Val Phe Arg Pro Arg Ile Leu Ile Ala
 130 135 140
 Val Pro Ser Gly Ile Thr Gly Val Glu Lys Arg Ala Val Glu Asp Ser
 145 150 155 160
 Ala Leu His Ala Gly Ala Gln Glu Val Ile Leu Ile Glu Glu Pro Met
 165 170 175
 Ala Ala Ala Ile Gly Val Asp Leu Pro Val His Glu Pro Ala Ala Ser
 180 185 190

Met Ile Ile Asp Ile Gly Gly Gly Thr Thr Glu Ile Ala Ile Ile Ser
 195 200 205
 Leu Gly Gly Ile Val Glu Ser Arg Ser Leu Arg Ile Ala Gly Asp Glu
 210 215 220
 Phe Asp Glu Cys Ile Ile Asn Tyr Met Arg Arg Thr Tyr Asn Leu Met
 225 230 235 240
 Ile Gly Pro Arg Thr Ala Glu Glu Ile Lys Ile Thr Ile Gly Ser Ala
 245 250 255
 Tyr Pro Leu Gly Asp Gln Glu Leu Glu Met Glu Val Arg Gly Arg Asp
 260 265 270
 Gln Val Ala Gly Leu Pro Ile Thr Lys Arg Ile Asn Ser Val Glu Ile
 275 280 285
 Arg Glu Cys Leu Ala Glu Pro Ile Gln Gln Ile Ile Glu Cys Val Arg
 290 295 300
 Leu Thr Leu Glu Lys Cys Pro Pro Glu Leu Ser Ala Asp Leu Val Glu
 305 310 315 320
 Arg Gly Met Val Leu Ala Gly Gly Gly Ala Leu Ile Lys Gly Leu Asp
 325 330 335
 Lys Ala Leu Ser Lys Asn Thr Gly Leu Ser Val Ile Thr Ala Pro His
 340 345 350
 Pro Leu Leu Ala Val Cys Leu Gly Thr Gly Lys Ala Leu Glu His Leu
 355 360 365
 Asp Gln Phe Lys Lys Arg Lys Gly Asn Leu Val
 370 375

<210> 853
 <211> 606
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0851

<400> 853
 Arg Glu Phe Gly Ile Val Met Val Trp Ser Thr Asn Ile Lys His Glu
 1 5 10 15
 Gly Leu Lys Ser Trp Ile Asp Glu Val Ala Lys Leu Thr Thr Pro Lys
 20 25 30
 Asp Ile Arg Leu Cys Asp Gly Ser Asp Thr Glu Tyr Asp Glu Leu Cys
 35 40 45
 Thr Leu Met Glu Ser Thr Gly Thr Met Ile Arg Leu Asn Pro Glu Phe
 50 55 60
 His Pro Asn Cys Phe Leu Val Arg Ser Ser Ala Asp Asp Val Ala Arg
 65 70 75 80
 Val Glu Gln Phe Thr Phe Ile Cys Thr Ser Thr Glu Ala Glu Ala Gly
 85 90 95
 Pro Thr Asn Asn Trp Arg Asp Pro Gln Glu Met Arg Arg Glu Leu His
 100 105 110
 Gln Leu Phe Arg Gly Cys Met Gln Gly Arg Thr Leu Tyr Ile Val Pro
 115 120 125
 Phe Cys Met Gly Pro Leu Asp Ser Pro Phe Ser Ile Val Gly Val Glu
 130 135 140
 Leu Thr Asp Ser Pro Tyr Val Val Cys Ser Met Lys Ile Met Thr Arg
 145 150 155 160
 Met Gly Asp Asp Val Leu Arg Ser Leu Gly Thr Ser Gly Lys Phe Leu
 165 170 175
 Lys Cys Leu His Ser Val Gly Lys Pro Leu Ser Pro Gly Glu Ala Asp
 180 185 190
 Val Ser Trp Pro Cys Asn Pro Lys Ser Met Arg Ile Val His Phe Gln
 195 200 205

Asp Asp Ser Ser Val Met Ser Phe Gly Ser Gly Tyr Gly Gly Asn Ala
 210 215 220
 Leu Leu Gly Lys Lys Cys Val Ala Leu Arg Leu Ala Ser Tyr Met Ala
 225 230 235 240
 Lys Ser Gln Gly Trp Leu Ala Glu His Met Leu Ile Ile Gly Ile Thr
 245 250 255
 Asn Pro Glu Gly Lys Lys Lys Tyr Phe Ser Ala Ser Phe Pro Ser Ala
 260 265 270
 Cys Gly Lys Thr Asn Leu Ala Met Leu Met Pro Lys Leu Pro Gly Trp
 275 280 285
 Lys Ile Glu Cys Ile Gly Asp Asp Ile Ala Trp Ile Arg Pro Gly Arg
 290 295 300
 Asp Gly Arg Leu Tyr Ala Val Asn Pro Glu Tyr Gly Phe Phe Gly Val
 305 310 315 320
 Ala Pro Gly Thr Ser Glu Arg Thr Asn Pro Asn Ala Leu Ala Thr Cys
 325 330 335
 Arg Ser Asn Ser Ile Phe Thr Asn Val Ala Leu Thr Ala Asp Gly Asp
 340 345 350
 Val Trp Trp Glu Gly Leu Thr Glu Gln Pro Pro Glu Pro Leu Thr Asp
 355 360 365
 Trp Leu Gly Lys Pro Trp Lys Pro Gly Gly Ser Pro Ala Ala His Pro
 370 375 380
 Asn Ser Arg Phe Thr Ala Pro Leu Arg Gln Cys Pro Ser Leu Asp Pro
 385 390 395 400
 Glu Trp Asn Ser Pro Gln Gly Val Pro Leu Asp Ala Ile Ile Phe Gly
 405 410 415
 Gly Arg Arg Ser Glu Thr Ile Pro Leu Val Tyr Glu Ala Leu Ser Trp
 420 425 430
 Glu His Gly Val Thr Ile Gly Ala Gly Met Ser Ser Thr Thr Thr Ala
 435 440 445
 Ala Ile Val Gly Gln Leu Gly Lys Leu Arg His Asp Pro Phe Ala Met
 450 455 460
 Leu Pro Phe Cys Gly Tyr Asn Met Ala Tyr Tyr Phe Gln His Trp Leu
 465 470 475 480
 Ser Phe Ala Glu Asn Arg Ser Leu Lys Leu Pro Lys Ile Phe Gly Val
 485 490 495
 Asn Trp Phe Arg Lys Asn Asn Gln Gly Glu Phe Leu Trp Pro Gly Phe
 500 505 510
 Ser Glu Asn Leu Arg Val Leu Glu Trp Ile Phe Gln Arg Thr Asp Gly
 515 520 525
 Leu Glu Asp Ile Ala Glu Arg Thr Pro Ile Gly Tyr Leu Pro Asn Ile
 530 535 540
 Gln Lys Phe Asn Leu Asn Gly Leu Asn Leu Asp Leu Gln Thr Val Gln
 545 550 555 560
 Glu Leu Phe Ser Val Asp Ala Glu Gly Trp Leu Ala Glu Val Glu Asn
 565 570 575
 Ile Gly Glu Tyr Leu Lys Ile Phe Gly Ser Asp Cys Pro Gln Gln Ile
 580 585 590
 Thr Asp Glu Leu Leu Arg Ile Lys Ser Glu Leu Lys Glu Lys
 595 600 605

<210> 854

<211> 780

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0852

<400> 854

Ile	Lys	Leu	Arg	Ile	Ile	Asp	Tyr	Tyr	Tyr	Leu	Ile	Asn	Thr	Val	Thr		
1				5					10					15			
Leu	Gln	Pro	Ser	Tyr	Ile	Asn	Phe	Thr	Pro	Asn	Val	Thr	Thr	Ala	Leu		
			20					25					30				
Ser	Gly	Gly	Lys	Ile	Asp	Thr	Ser	Ala	Ile	Glu	Leu	Ser	Cys	Ser	Ala		
	35						40					45					
Leu	Phe	Phe	Gln	Glu	Leu	Gln	Asp	Lys	Ala	Gln	Gly	Leu	Lys	His	Ala		
	50					55					60						
Leu	Gly	Leu	Val	Gln	Glu	Leu	Ser	Ala	Glu	Ala	Leu	Arg	Pro	Ala	Gln		
65					70					75					80		
Val	Gln	Thr	Ser	Ile	Ser	Tyr	Leu	Pro	Thr	Glu	Glu	Ser	Ser	Arg	Pro		
				85					90					95			
Gly	Ile	Ser	Ala	Gly	Ile	Ile	Asp	Arg	Thr	Met	Pro	Thr	Phe	Thr	Asp		
			100					105					110				
Asp	Glu	Val	Lys	Ala	Ile	Leu	Gln	Asn	Pro	Asn	Phe	Glu	Thr	Ser	Lys		
	115						120					125					
Ile	Phe	Val	Glu	Gly	Leu	Asp	Lys	Val	Phe	Lys	Ser	Tyr	Leu	Asp	Ser		
	130					135					140						
Val	Thr	Pro	Pro	Glu	Gly	Ile	Asp	Pro	Ser	Asn	Pro	Glu	Ser	Ala	Ile		
145					150					155					160		
Ile	Leu	Asn	Tyr	Ile	Thr	Leu	Leu	Asn	Asn	Leu	Lys	Pro	Lys	Phe	Ala		
				165					170					175			
Ala	Gly	Ser	Thr	Pro	Thr	Asp	Ala	Asp	Tyr	Asn	Ala	Leu	Tyr	Ala	Leu		
			180					185					190				
Pro	Gly	Asp	Phe	Val	Lys	Glu	Ile	Glu	Ala	Leu	Lys	Ala	Ala	Asp	Ala		
	195					200					205						
Pro	Pro	Lys	Ser	Lys	Val	His	Ala	Phe	Trp	Gln	Glu	Ile	Met	Thr	Ile		
	210					215					220						
Tyr	Asn	Asn	Met	Gln	Val	Leu	Ser	Tyr	Pro	Val	Thr	Asp	Tyr	Leu	Asn		
225					230					235					240		
Val	Gln	Ile	Ala	Asp	Leu	Ser	Leu	Asn	Ile	Thr	Ala	Ala	Gln	Glu	Val		
				245					250					255			
Gln	Gln	Tyr	Leu	Lys	Asn	Phe	Tyr	Ser	Ile	Leu	Lys	Asp	Ile	Leu	Asn		
			260					265					270				
Pro	Gly	Trp	Thr	Asp	Pro	Gln	Ala	Thr	His	Tyr	Pro	Ala	Asp	Ala	Glu		
	275						280					285					
Tyr	Asn	Ala	Arg	Asp	Ala	Gly	Val	Ile	Gln	Ser	Leu	Leu	Asn	Leu	Ser		
	290					295					300						
Gly	Asn	Tyr	Arg	Gln	Leu	Thr	Glu	Asn	Met	Leu	Pro	Asn	Thr	Asp	Thr		
305					310					315					320		
Ser	Leu	Pro	Gln	Glu	Ile	Ile	Ala	Gln	Ile	Arg	Ser	Phe	Gln	Asn	Gly		
				325					330					335			
Val	Asn	Gly	Thr	Ile	Ile	Ala	Ser	Asn	Thr	Leu	Leu	Pro	Thr	Thr	Met		
			340						345					350			
Arg	Leu	Asp	Thr	Leu	Leu	Gly	Val	Ile	Tyr	Thr	Tyr	Gln	Cys	Cys	Ala		
		355					360					365					
Thr	Ile	Phe	Gly	Met	Ser	Tyr	Gly	Thr	Ser	Thr	Pro	Ala	Lys	Gln	Asn		
	370					375					380						
Tyr	Ile	Asp	Ala	Ile	Asn	Gln	Glu	Lys	Ser	Tyr	Trp	Gln	Ala	Arg	Ala		
385					390					395					400		
Asn	Gly	Phe	Asp	Val	Thr	Ser	Asp	Gln	Val	Phe	Asp	Gln	Phe	Ala	Thr		
				405					410					415			
Asn	Ile	Gln	Ser	Gly	Thr	Ser	Tyr	Arg	Gly	Ile	Asp	Leu	Phe	Lys	Asn		
			420					425					430				
Asn	Lys	Val	Asn	Glu	Ile	Asn	Pro	Ile	Phe	Leu	Ser	Gln	Ala	Ala	Ser		
		435					440					445					
Phe	Leu	Arg	Tyr	Pro	Tyr	Asn	Leu	Met	Ser	Arg	Ser	Met	Tyr	Gln	Thr		
	450					455					460						
Ile	Glu	Asp	Ala	Ala	Asn	Arg	Ser	Ile	Thr	Ala	Leu	Asp	Gly	Leu	Ile		
465					470					475					480		

Ser Gly Trp Ser Thr Gln Ile Ala Thr Phe Gln Thr Gln Lys Asn Ser
 485 490 495
 Leu Asp Pro Ser Leu Leu Lys Tyr Phe Asp Thr Met Lys Ala Asn Lys
 500 505 510
 Glu Ser Phe Val Thr Thr Ala Pro Leu Gln Met Val Tyr Ser Ser Leu
 515 520 525
 Met Leu Asp Lys Tyr Leu Pro Thr Gln Gln Asn Val Ile Ala Ser Leu
 530 535 540
 Gly Ile Gln Met Thr Tyr Ser Asn Lys Ala Ala Lys Tyr Leu Asn Glu
 545 550 555 560
 Leu Ile Lys Glu Ile Thr Thr Phe Gln Ser Ala Asp Ile Tyr Tyr Ser
 565 570 575
 Leu Ser Ile Tyr Leu Lys Gln Met Asn Leu Gln Ala Val Ala Asp Pro
 580 585 590
 Ile Gly Lys Ala Val Gly Val Leu Asn Asp Glu Lys Thr Arg Ala Met
 595 600 605
 Ala Asp Ile Thr Arg Cys Asn Lys Ile Lys Ala Ala Ile Asp Lys Met
 610 615 620
 Leu Val Glu Ile Lys Ala Asp Ala Glu Leu Ser Lys Ser Gln Ile Arg
 625 630 635 640
 Glu Leu Val Asp Thr Leu Thr Asn Phe Lys Ser Gln Ser Asp Asp Leu
 645 650 655
 Ile Arg Asn Leu Ser Cys Leu Leu Gly Phe Leu Ser Gly Leu Thr Leu
 660 665 670
 Lys Ala Val Asn Asp Pro Asn Ala Thr Tyr Glu Ala Phe Thr Ala Glu
 675 680 685
 Ile Phe Thr Glu Pro Phe Asn Asn Trp Lys Arg Gln Leu Ala Thr Phe
 690 695 700
 Glu Ser Phe Val Ile Gln Gly Gly Gln Asn Gly Ile Thr Pro Gly Gly
 705 710 715 720
 Gln Gln Gln Leu Leu Gln Ala Met Glu Ser Ser Gln Gln Asp Phe Ser
 725 730 735
 Thr Phe Asn Gln Asn Gln Gln Leu Ala Leu Gln Leu Glu Ser Ser Ala
 740 745 750
 Met Gln Gln Glu Trp Thr Leu Val Ser Ala Ala Leu Ala Leu Leu Asn
 755 760 765
 Gln Met Val Ser Lys Ile Ala Arg Arg Ile Lys Ser
 770 775 780

<210> 855
 <211> 391
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0853

<400> 855
 Asn Ile Met His Pro Lys Ile Glu Lys Arg Asn Ser Leu Pro Leu Thr
 1 5 10 15
 Ala Val Ala Pro Val Phe Glu Glu Ser Tyr His Pro Ser Val Ala Thr
 20 25 30
 Thr Val Asp Tyr Val Asp Ala Thr Thr Leu Ser Arg His Leu Thr Val
 35 40 45
 Leu Lys Asp Val Ile Lys Glu Ala Arg Asn Leu Asp Leu Gly Lys Ala
 50 55 60
 Phe Leu Thr Ser Met Lys Gln Gly Phe Ile Asn Thr Gly Thr Glu Leu
 65 70 75 80
 Ala Ile Ile Gln Ala Ser Leu Ala Asp Gln Ser Ser Arg Glu Ser Arg
 85 90 95

Lys Lys Glu Glu Lys Ile Phe His Gln His Leu Gly Lys Ala Ala Pro
 100 105 110
 Gln Ala Ala Thr Ala Thr Ser Gly Val Gln Pro Thr Ala Asp Pro Val
 115 120 125
 Ala Asp Lys Met Pro Leu Gln Ser Ala Phe Ala Tyr Val Leu Leu Asp
 130 135 140
 Lys Tyr Ile Pro Ala Gln Glu Glu Ala Leu Tyr Ala Leu Gly Arg Glu
 145 150 155 160
 Leu Asn Leu Ser Gly Tyr Ala Gln Asn Leu Phe Ser Pro Leu Leu Asp
 165 170 175
 Met Ile Lys Ser Phe Asn Ser Ala Pro Ile Asn Tyr Asn Leu Gly Ser
 180 185 190
 Tyr Ile Ser Gln Thr Ser Gly Thr Ala Asn Phe Ala Tyr Gly Tyr Glu
 195 200 205
 Met Ile Leu Ser Arg Tyr Asn Asn Glu Val Ser Gln Cys Arg Leu Asp
 210 215 220
 Ile Ala Ser Thr Val Lys Ala Lys Ala Ala Leu Ala Asn Met Ser Ala
 225 230 235 240
 Ser Val Lys Ala Asn Val Ser Leu Thr Asp Ala Gln Lys Lys Gln Ile
 245 250 255
 Glu Asp Ile Ile Ala Ser Tyr Thr Lys Ser Leu Asp Val Ile His Thr
 260 265 270
 Gln Leu Thr Asp Val Met Thr Asn Leu Ala Ser Ile Thr Phe Val Pro
 275 280 285
 Gly Leu Asn Lys Tyr Asp Pro Ser Tyr Arg Ile Val Gly Gly Asp Leu
 290 295 300
 Ser Ile Ile Ala Leu Gln Asn Asp Glu Lys Val Leu Val Asp Gly Lys
 305 310 315 320
 Val Asp Ile Thr Thr Ala Val Asn Glu Gly Gly Leu Leu Asn Phe Phe
 325 330 335
 Thr Thr Val Leu Thr Asp Val Gln Asn Tyr Gly Asp Leu Ala Gln Thr
 340 345 350
 Gln Gln Leu Met Leu Asp Leu Glu Leu Lys Ala Met Gln Gln Gln Trp
 355 360 365
 Ser Leu Val Ser Ala Ser Leu Lys Leu Leu Asn Gly Met Tyr Thr Thr
 370 375 380
 Val Ile Ser Gly Phe Lys Asn
 385 390

<210> 856
 <211> 348
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0854

<400> 856
 Gly Pro Phe Asp Met Asn Ser Lys Met Leu Lys His Leu Arg Leu Ala
 1 5 10 15
 Thr Leu Ser Phe Ser Met Phe Phe Gly Ile Val Ser Ser Pro Ala Val
 20 25 30
 Tyr Ala Leu Gly Ala Gly Asn Pro Ala Ala Pro Val Leu Pro Gly Val
 35 40 45
 Asn Pro Glu Gln Thr Gly Trp Cys Ala Phe Gln Leu Cys Asn Ser Tyr
 50 55 60
 Asp Leu Phe Ala Ala Leu Ala Gly Ser Leu Lys Phe Gly Phe Tyr Gly
 65 70 75 80
 Asp Tyr Val Phe Ser Glu Ser Ala His Ile Thr Asn Val Pro Val Ile
 85 90 95

Thr Ser Val Thr Thr Ser Gly Thr Gly Thr Thr Pro Thr Ile Thr Ser
 100 105 110
 Thr Thr Lys Asn Val Asp Phe Asp Leu Asn Asn Ser Ser Ile Ser Ser
 115 120 125
 Ser Cys Val Phe Ala Thr Ile Ala Leu Gln Glu Thr Ser Pro Ala Ala
 130 135 140
 Ile Pro Leu Leu Asp Ile Ala Phe Thr Ala Arg Val Gly Gly Leu Lys
 145 150 155 160
 Gln Tyr Tyr Arg Leu Pro Leu Asn Ala Tyr Arg Asp Phe Thr Ser Asn
 165 170 175
 Pro Leu Asn Ala Glu Ser Glu Val Thr Asp Gly Leu Ile Glu Val Gln
 180 185 190
 Ser Asp Tyr Gly Ile Val Trp Gly Leu Ser Leu Gln Lys Val Leu Trp
 195 200 205
 Lys Asp Gly Val Ser Phe Val Gly Val Ser Ala Asp Tyr Arg His Gly
 210 215 220
 Ser Ser Pro Ile Asn Tyr Ile Ile Val Tyr Asn Lys Ala Asn Pro Glu
 225 230 235 240
 Ile Tyr Phe Asp Ala Thr Asp Gly Asn Leu Ser Tyr Lys Glu Trp Ser
 245 250 255
 Ala Ser Ile Gly Ile Ser Thr Tyr Leu Asn Asp Tyr Val Leu Pro Tyr
 260 265 270
 Ala Ser Val Ser Ile Gly Asn Thr Ser Arg Lys Ala Pro Ser Asp Ser
 275 280 285
 Phe Thr Glu Leu Glu Lys Gln Phe Thr Asn Phe Lys Phe Lys Ile Arg
 290 295 300
 Lys Ile Thr Asn Phe Asp Arg Val Asn Phe Cys Phe Gly Thr Thr Cys
 305 310 315 320
 Cys Ile Ser Asn Asn Phe Tyr Tyr Ser Val Glu Gly Arg Trp Gly Tyr
 325 330 335
 Gln Arg Ala Ile Asn Ile Thr Ser Gly Leu Gln Phe
 340 345

<210> 857
 <211> 336
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0855

<400> 857
 Gly Leu Met Lys Gln His Ile Gly Tyr Leu Gly Met Gly Ile Trp Gly
 1 5 10 15
 Phe Cys Leu Ala Ser Leu Leu Ala Asn Lys Gly Tyr Pro Val Val Ala
 20 25 30
 Trp Ser Arg Asn Pro Asp Leu Ile Lys Gln Leu Gln Glu Arg Arg
 35 40 45
 His Pro Leu Ala Pro Asn Val Val Ile Ser Pro Asn Leu Ser Phe Thr
 50 55 60
 Thr Asp Met Lys Glu Ala Ile His Asn Ala Phe Met Ile Val Glu Gly
 65 70 75 80
 Val Thr Ser Ala Gly Ile Arg Pro Val Ala Glu Gln Leu Lys Gln Ile
 85 90 95
 Thr Asp Leu Ser Val Pro Phe Val Ile Thr Ser Lys Gly Ile Glu Gln
 100 105 110
 Asn Thr Gly Leu Leu Leu Ser Glu Ile Met Leu Glu Val Leu Gly Asp
 115 120 125
 Ser Val Thr Pro Tyr Leu Gly Tyr Leu Ser Gly Pro Ser Ile Ala Lys
 130 135 140

Glu Val Leu Asn Gly Ser Pro Cys Ser Val Val Val Ser Ala Tyr Asp
 145 150 155 160
 Ser Gln Thr Leu Lys Gln Ile His Glu Ala Phe Ser Leu Pro Thr Phe
 165 170 175
 Arg Val Tyr Pro Asn Thr Asp Ile Lys Gly Ala Ala Leu Gly Gly Ala
 180 185 190
 Leu Lys Asn Val Ile Ala Ile Ala Cys Gly Ile Ala Glu Gly Leu Ser
 195 200 205
 Phe Gly Asn Asn Ala Lys Ala Gly Leu Val Thr Arg Gly Leu His Glu
 210 215 220
 Met Arg Lys Leu Ala Ala Ile Met Asp Cys Lys Pro Glu Thr Leu Asn
 225 230 235 240
 Gly Leu Ala Gly Leu Gly Asp Leu Cys Val Thr Cys Phe Ser Glu Ser
 245 250 255
 Ser Arg Asn Leu Arg Phe Gly His Leu Leu Ala Gln Gly Leu Thr Phe
 260 265 270
 Glu Gln Ala Lys Ala Lys Ile Gly Met Val Val Glu Gly Ala Tyr Thr
 275 280 285
 Ala Leu Ser Ala Tyr Gln Val Ala Lys His His Lys Ile Asp Met Pro
 290 295 300
 Ile Thr Thr Gly Ile Tyr Arg Val Leu Tyr Glu Asn Leu Asp Leu Lys
 305 310 315 320
 Glu Gly Ile Ala Leu Leu Leu Gln Arg Asn Thr Lys Glu Glu Phe Leu
 325 330 335

<210> 858
 <211> 472
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0856

<400> 858
 Gly Ser Arg Asp Arg Asn Val Arg Leu Thr Val Met Thr Glu Ser Val
 1 5 10 15
 Tyr Ser Pro Ser Ala Met His Val Asn Ser Leu Ala Asp Lys Leu Lys
 20 25 30
 Ala Ile Asn Gln Glu His Ile Leu Asp Ile Trp Pro Ser Leu Ser Pro
 35 40 45
 Lys Gln Gln Gln Arg Leu Phe Gln Gln Leu Thr Ser Val Asp Ile Asp
 50 55 60
 Phe Phe Arg Lys Gln Gln Gln Leu Leu Ser Ser Pro Thr Ala Ile Leu
 65 70 75 80
 Lys Asp Phe His Pro Ile Thr Ser Phe Ala Ser Ser Gly Glu Asp Pro
 85 90 95
 Glu Arg Ala His Ala Gly Thr Thr Leu Lys Glu Lys Lys Val Ala
 100 105 110
 Cys Val Val Leu Ala Gly Gly Gln Gly Ser Arg Leu Lys Cys Asp Gly
 115 120 125
 Pro Lys Gly Leu Phe Pro Val Ser Pro Ile Lys Lys Lys Pro Leu Phe
 130 135 140
 Gln Leu Val Ala Glu Lys Val Arg Ala Ala Ser Lys Leu Ala Gly Gln
 145 150 155 160
 Pro Leu Pro Leu Ala Phe Met Thr Ser Pro Leu Asn Thr Arg Gln Thr
 165 170 175
 Arg Ser Phe Phe Glu Ser Asn Asp Tyr Phe His Leu Asp Pro Asn Gln
 180 185 190
 Val Asp Phe Phe Cys Gln Pro Leu Trp Pro Leu Leu Thr Leu Ser Gly
 195 200 205

Asp Leu Phe Leu Glu Asp Met Asp Thr Leu Ala Leu Gly Pro Asn Gly
 210 215 220
 Asn Gly Cys Ile Ala Thr Leu Leu Tyr Thr Ser Gly Val Trp Glu Lys
 225 230 235 240
 Trp Lys Asn Ala Gly Ile Glu Met Val Ser Val Ile Pro Ile Asp Asn
 245 250 255
 Pro Leu Ala Leu Pro Phe Asp Val Glu Leu Cys Gly Phe His Ala Met
 260 265 270
 Ser Asn Asn Glu Val Thr Ile Lys Ala Ala Leu Arg Gln Thr Ala Ile
 275 280 285
 Glu Asp Val Gly Ile Leu Val Lys Ser His Asp Ser Gly Lys Thr Ser
 290 295 300
 Val Ile Glu Tyr Ser Glu Ile Pro Gln Asn Glu Arg Phe Ala Leu Asn
 305 310 315 320
 Glu Asp Gly Lys Leu Lys Tyr Cys Leu Ala Asn Ile Gly Leu Tyr Cys
 325 330 335
 Leu Ser Met Asp Phe Ile Arg His Ala Ala Tyr Gln Gln Leu Pro Leu
 340 345 350
 Tyr Lys Val His Lys His Ala Lys Gln Leu Gly His Thr Ser Leu Asn
 355 360 365
 Glu Lys Asn Ala Trp Lys Phe Glu Glu Phe Ile Phe Asp Leu Phe Cys
 370 375 380
 Tyr Ser Asp His Cys Gln Thr Leu Val Tyr Pro Arg Gln Glu Cys Phe
 385 390 395 400
 Ala Pro Leu Lys Asn Leu Glu Gly Asn His Ser Pro Asp Thr Val Arg
 405 410 415
 Gln Ala Leu Ser Asp Arg Glu Arg Gln Leu Phe His Lys Val Thr Gly
 420 425 430
 Lys Lys Leu Ser Pro Asn Thr Thr Phe Glu Leu Glu Ala Asp Phe Tyr
 435 440 445
 Tyr Pro Ser Thr Ser Thr Ser Leu His Trp Glu Asn Lys Ala Phe Phe
 450 455 460
 Glu Glu Pro Phe Phe Glu Ala Ser
 465 470

<210> 859
 <211> 139
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0857

<400> 859
 Leu Leu Leu Leu Arg Gln Tyr Ile Lys Thr Ala Arg Gly Ile Ser Arg
 1 5 10 15
 Leu Met Arg Asp Arg Leu Gly Ser Leu Ser Leu Ile Leu Lys Val Lys
 20 25 30
 Ile His Lys Tyr Leu Asp Thr Leu His Asn Gln Lys Arg Leu Ala Leu
 35 40 45
 Thr Val Ser Arg Asn Ile Gln Ala Thr Asn Lys Arg Ile Ala Asp Leu
 50 55 60
 His Leu Glu Arg Tyr Glu His Phe Ile Ser Arg Asp Asn Ile Lys His
 65 70 75 80
 Tyr Asp Ile Leu Leu Glu Tyr Leu Lys Thr Leu Gln Ser Ser Leu Tyr
 85 90 95
 Lys Gln Gln Ser Glu Ser Leu Arg Phe Leu Glu Ile His His Gln Gln
 100 105 110
 Leu Gln Glu Leu Ile Asn Arg Arg Lys Ile Ile Glu Lys Ile Lys Asn
 115 120 125

Asn Lys Tyr Ser Lys Asp Gln Glu Ile Gly Thr
 130 135

<210> 860
 <211> 453
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0858

<400> 860
 Arg Asn Ser Glu Thr Arg Asn Gln Arg Arg Thr Arg Pro Ser Thr Phe
 1 5 10 15
 Cys Phe Asp Ser Met Asn His Leu Asn Lys Glu Lys Leu His Ile His
 20 25 30
 Asn Trp Gln Pro Tyr Arg Ala Cys Gly Leu Leu Ser Lys Val Ser Gly
 35 40 45
 Asn Leu Ile Glu Val Asp Gly Leu Ser Ala Cys Leu Gly Glu Leu Cys
 50 55 60
 Lys Ile Ser Ser Thr Lys Asp Pro Asn Leu Leu Ala Glu Val Ile Gly
 65 70 75 80
 Phe His Asn His Thr Thr Leu Leu Met Ser Leu Ser Pro Leu His Ser
 85 90 95
 Val Ala Leu Gly Thr Glu Val Leu Pro Leu Arg Arg Pro Pro Ser Leu
 100 105 110
 His Leu Ser Asp His Leu Leu Gly Arg Val Leu Asp Ala Phe Gly Asn
 115 120 125
 Pro Ile Asp Lys Lys Glu Asp Leu Pro Lys Thr His Arg Lys Pro Leu
 130 135 140
 Leu Ser Leu Pro Pro Ser Pro Met Met Arg Gln Pro Ile Asp Gln Ile
 145 150 155 160
 Phe Pro Thr Gly Ile Lys Ala Ile Asp Ala Phe Leu Thr Leu Gly Lys
 165 170 175
 Gly Gln Arg Ile Gly Val Phe Ser Glu Pro Gly Ser Gly Lys Ser Ser
 180 185 190
 Leu Leu Ser Ala Ile Ala Leu Gly Ser Lys Ser Thr Ile Asn Val Ile
 195 200 205
 Ala Leu Ile Gly Glu Arg Gly Arg Glu Val Arg Glu Tyr Ile Glu Lys
 210 215 220
 His Ser Asn Ala Leu Lys Gln Gln Arg Thr Ile Ile Ala Ala Pro
 225 230 235 240
 Ala His Glu Thr Ala Pro Thr Lys Val Ile Ala Gly Arg Ala Ala Met
 245 250 255
 Thr Ile Ala Glu Tyr Phe Arg Glu Gln Gly His Glu Val Leu Phe Ile
 260 265 270
 Met Asp Ser Leu Ser Arg Trp Ile Ala Ala Leu Gln Glu Val Ala Leu
 275 280 285
 Ala Arg Gly Glu Thr Leu Ser Ala His Gln Tyr Ala Ala Ser Val Phe
 290 295 300
 His His Val Ser Glu Phe Thr Glu Arg Ala Gly Asn Asn Asp Lys Gly
 305 310 315 320
 Ser Ile Thr Ala Leu Tyr Ala Ile Leu Tyr Tyr Pro Lys His Pro Asp
 325 330 335
 Ile Phe Thr Asp Tyr Leu Lys Ser Leu Leu Asp Gly His Phe Phe Leu
 340 345 350
 Thr Ser Gln Gly Lys Ala Leu Ala Ser Pro Pro Ile Asp Ile Leu Ser
 355 360 365
 Ser Leu Ser Arg Ser Ala Gln Ala Leu Ala Leu Pro His His Tyr Ala
 370 375 380

Ala Ala Glu Arg Leu Arg Ser Leu Leu Lys Val Tyr Asn Glu Ala Leu
 385 390 395 400
 Asp Ile Ile His Leu Gly Ala Tyr Thr Pro Gly Gln Asp Glu Glu Leu
 405 410 415
 Asp Lys Ala Val Lys Leu Leu Pro Ser Ile Lys Ala Phe Leu Ala Gln
 420 425 430
 Pro Leu Ser Ser Tyr Cys Tyr Leu Asp Asn Thr Leu Lys Gln Leu Glu
 435 440 445
 Ala Leu Ala Asp Ser
 450

<210> 861
 <211> 181
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0859

<400> 861
 Val Phe Leu Val Thr Thr Pro Gln Ser Pro Gly Ser Leu Ser Gln Ser
 1 5 10 15
 His Leu Pro His Pro His Asp Pro Trp Asp Thr Glu Pro Thr Ser Leu
 20 25 30
 Pro Glu Asp Pro Asn Asp Lys Ala Ser Gln Glu Leu His Ser Leu Val
 35 40 45
 His Leu Phe Arg Lys Leu Ser Ile His Leu Leu Ser Glu Val Glu Lys
 50 55 60
 Thr Val Gln Gln Leu Lys Pro Asp Leu Leu Glu Leu Ala Leu Leu Ile
 65 70 75 80
 Cys Glu Lys Phe Leu Tyr Lys Lys Leu Glu Asn Pro Gln Glu Leu Ala
 85 90 95
 Leu Leu Leu Ser Thr Ala Leu Gln Arg His Thr Thr Leu Arg Ser Leu
 100 105 110
 Thr Pro Ile Lys Val Phe Leu His Pro Glu Asp Leu Lys Thr Leu Thr
 115 120 125
 Asp Trp Ile Ser Thr His Glu Leu Pro Met Ile Lys His Ala Glu Phe
 130 135 140
 Phe Pro Asp Thr Ser Cys Arg Arg Ser Gly Phe Lys Ile Glu Thr Pro
 145 150 155 160
 Asn Gly Ile Leu Arg Gln Glu Ile Ser Glu Glu Leu Asp His Leu Leu
 165 170 175
 Ser Val Leu Thr Ala
 180

<210> 862
 <211> 344
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0860

<400> 862
 Arg Thr Leu Val Phe Phe Gln Asn Leu Ala Lys Lys Leu Thr Ala Leu
 1 5 10 15
 Gly Ile Ser Pro Leu Gly Cys Leu Leu Ile Gly Gly Val Val Ser Cys
 20 25 30
 Ala Ile Leu Phe Gly Arg Ser Ser Asn Pro Ser Leu Ala Pro Thr Gln
 35 40 45

Val Lys Thr Glu Lys Thr Ser Gly Asn Trp Leu Lys Leu Thr Gln Met
 50 55 60
 Gly Asn Pro Lys Leu Ile Glu Ser Leu Thr Lys Lys Glu Gln Leu Glu
 65 70 75 80
 Lys Asp Leu Thr Ser Phe His Pro Ile Ala Ser Ala Lys Val Ala Ile
 85 90 95
 Ala Leu Ser Thr Glu Asp Asp Val Met Ser Pro Leu His Leu Ser Val
 100 105 110
 Ile Leu Thr Leu Arg Lys Glu Glu Ser Leu Thr Pro Ser Leu Leu Phe
 115 120 125
 Ser Ile Thr Asp Tyr Leu Cys Ser Ser Leu Pro Gly Leu Lys Arg Glu
 130 135 140
 His Ile Ser Leu Ser Asp Asn Leu Gly Asn Leu Tyr Ile Pro Glu Ser
 145 150 155 160
 Ile Thr Val Asn Ser Leu Phe Ile His Thr Leu Glu Asn Tyr Leu Gly
 165 170 175
 Lys Ile Phe Pro Lys Glu His Phe Ala Leu Ala Tyr His Ala Lys Ala
 180 185 190
 Glu Lys Pro Thr Leu Gln Leu Thr Leu Asn Glu Asn Tyr Ile Ala His
 195 200 205
 Leu Thr Lys Glu Glu Ser Glu Lys Ile Val Ala His Thr Lys His Tyr
 210 215 220
 Leu Tyr Gln Asn Tyr Asp Asp Ser Tyr Asp Ile Val Ile Glu Thr Leu
 225 230 235 240
 Pro Phe Ala Arg Leu Gln Asn Lys Lys Ser Phe Pro Ala Lys Val Leu
 245 250 255
 Ile Gly Ser Met Ile Leu Val Ile Ser Leu Met Ile Val Ala Leu Ala
 260 265 270
 Ser Phe Tyr Leu Ala Arg His Ala Tyr Glu Arg Val Ser Pro Glu Pro
 275 280 285
 Arg Lys Ile Lys Arg Gly Ile Asn Ile Ser Lys Leu Leu Glu Ile Ile
 290 295 300
 Gln Lys Glu Ser Pro Glu Lys Ile Ala Leu Ile Leu Ser Tyr Leu Asp
 305 310 315 320
 Pro Lys Lys Ala Glu Ala Leu Leu Asn Arg Leu Pro Glu Asp Leu Lys
 325 330 335
 His Gln Val Leu Lys Tyr Lys Leu
 340

<210> 863
 <211> 276
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0861

<400> 863
 Ala Ser Tyr Pro Phe Thr Trp Lys Phe Leu Met Thr Leu Pro Leu Glu
 1 5 10 15
 Pro Met Ile Phe Trp Ser Ser Leu Ser Ala Lys Val Met Lys Lys Phe
 20 25 30
 Leu Thr Pro His Cys Ala Gly Thr Phe Ser Glu Glu Asp Ala Glu Ala
 35 40 45
 Lys Glu Ala His Leu Val Thr Gly Lys Gln Gly His Arg Leu Met Gly
 50 55 60
 Asn Cys Val Thr Phe Tyr Trp Leu Val Asp Lys Lys Asn Gly Val Ile
 65 70 75 80
 Leu Asp Ala Lys Phe Gln Tyr Phe Gly His Pro Tyr Leu Ile Pro Leu
 85 90 95

Ala Glu Ala Val Cys Asn Leu Val Cys Gly Lys Ser Tyr Ser Glu Ala
 100 105 110
 Tyr Lys Met Thr Leu Asp Asp Ile Asp Lys Ser Leu Arg Val His Ala
 115 120 125
 His Gln Pro Ala Leu Pro Glu Asp Ser Ile Ser Leu Tyr His Phe Val
 130 135 140
 Ile Asp Ala Leu Asp Thr Ala Val Glu Gln Cys Leu Glu Ile Pro Leu
 145 150 155 160
 Glu Asp Gly Ser Leu Pro Leu Gln Asn Ser Pro Met Asn Leu Asp Phe
 165 170 175
 Glu Asp Ala Asn Pro Tyr Ser Gln Ser Asp Trp Glu Ala Leu Thr His
 180 185 190
 Glu Gln Lys Leu Tyr Ala Leu Arg Ala Thr Ile Ala Glu Lys Ile Gly
 195 200 205
 Pro Tyr Ile Ala Met Asp Gly Gly Glu Val Thr Val Glu Ser Leu Glu
 210 215 220
 Asn Phe Ile Val Thr Ile Ala Tyr Ser Gly Asn Cys Ser Gly Cys Pro
 225 230 235 240
 Ser Ser Leu Gly Ser Thr Leu Asn Ser Ile Gly Gln Leu Leu Arg Ala
 245 250 255
 Tyr Ile Tyr Pro Glu Leu Gln Val Lys Val Asp Glu Ser Ser Leu Asn
 260 265 270
 Leu Ser His Pro
 275

<210> 864
 <211> 401
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0862

<400> 864
 Gly Arg Gly Thr Ile Phe Arg Ile Thr Asp Gly Lys Thr Ser Cys Ile
 1 5 10 15
 Ser Met Glu Lys Pro Gln Asn Arg Lys Ala Pro Arg Ile Phe Trp Leu
 20 25 30
 Asn Asn Gln Val Ala Ile Pro Pro Ser Glu Arg Val Lys Glu Ser Tyr
 35 40 45
 Ala Leu His Ser Asp Ile Phe Ser Leu Pro Pro Gly Ser Ala Leu Lys
 50 55 60
 Leu Ala Glu Lys Thr Glu Glu Ser Ile Arg Gln Leu Val Gly Leu Lys
 65 70 75 80
 Asp Ser His Ile Phe Arg Phe Val Pro His Phe Pro His Val Val His
 85 90 95
 Ile Val Leu Ala Ala Leu Val Glu Asn Leu Ser Met Phe Gln Gly Arg
 100 105 110
 Asn His Ile Ile Leu Pro Ala His Asp Gln Gln Leu Leu Ile Asn Ser
 115 120 125
 Leu Cys Arg His Gln Gly Leu Gly Thr Thr Tyr Asp Trp Val Thr Val
 130 135 140
 Asn His Glu Gly Arg Ile Val Glu Glu Gln Leu Ile Glu Thr Leu Ser
 145 150 155 160
 Pro Arg Ser Leu Leu Phe Ser Leu Ser Ala Ala His Gly Leu Thr Gly
 165 170 175
 Val Ile Gln Pro Leu Asp Pro Leu Leu Ser Leu Cys Lys Asp Arg Arg
 180 185 190
 Ile Leu Leu His Leu Asp Ile Ser Asp Ile Leu Gly Arg Ala Pro Leu
 195 200 205

Thr Pro Glu Ile Leu Asn Ala Asp Ile Ile Thr Phe Ser Ser Ala Ala
 210 215 220
 Leu Gly Gly Met Gly Ser Ile Gly Gly Ile Phe Ile Arg Lys Ser Leu
 225 230 235 240
 Glu Arg Val Phe Ser Ser Trp Phe Pro Pro His Thr Ser Ala Ser Leu
 245 250 255
 Cys Phe Ser Ala Val Ala Ala Met Gln Thr Ala Cys Glu Glu Arg Ile
 260 265 270
 Ser Ala Leu Pro Leu Phe Thr Phe His Thr Ser Asn Leu Cys Lys Lys
 275 280 285
 Leu Ile Gln Glu Leu Gln Ser Val Leu Pro Ser Ile Gln Leu Ala Phe
 290 295 300
 Ser Glu Val Gln Asn Arg Leu Pro Asn Ile Val Val Ala Ala Ile Pro
 305 310 315 320
 Asp Ile Pro Ala Glu Ser Leu Ala Phe His Leu His Gln Gln Gly Ile
 325 330 335
 Tyr Pro Ser Leu Gly Tyr Glu Arg Phe Gln Pro Leu Ala Gln Val Leu
 340 345 350
 Gln Asn Cys Gly Ile Ser Pro Phe Leu Cys His Ser Ala Leu His Phe
 355 360 365
 Ser Leu Thr Glu Arg Ser Lys Asp Leu Glu Phe Ser Lys Leu Ala Arg
 370 375 380
 Ala Met His Asp Ala Ile Lys His Leu Thr Pro Leu Leu Gly Ser Ser
 385 390 395 400
 Ser

<210> 865
 <211> 230
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0863

<400> 865
 Glu His Met Ala Leu Leu Ile Leu Leu Arg His Gly Gln Ser Val Trp
 1 5 10 15
 Asn Glu Lys Asn Leu Phe Ser Gly Trp Val Asp Ile Pro Leu Ser Gln
 20 25 30
 Gln Gly Ile Glu Glu Ala Phe Ser Ala Gly Arg Ala Ile Gln Asn Leu
 35 40 45
 Pro Ile Asp Cys Ile Phe Thr Ser Thr Leu Val Arg Ser Leu Met Thr
 50 55 60
 Ala Leu Leu Ala Met Thr Asn His His Ser Lys Lys Ile Pro Tyr Ile
 65 70 75 80
 Val His Glu Asp Pro Lys Ala Lys Glu Met Ser Arg Ile Tyr Ser Ala
 85 90 95
 Glu Glu Glu Asn Asn Met Ile Pro Leu Tyr Gln Ser Ser Ala Leu Asn
 100 105 110
 Glu Arg Met Tyr Gly Glu Leu Gln Gly Lys Asn Lys Lys Gln Thr Ala
 115 120 125
 Glu Gln Phe Gly Glu Glu Arg Val Lys Leu Trp Arg Arg Ser Tyr Lys
 130 135 140
 Thr Ala Pro Pro Gln Gly Glu Ser Leu Tyr Asp Thr Lys Gln Arg Thr
 145 150 155 160
 Leu Pro Tyr Phe Glu Lys Asn Ile Leu Pro Gln Leu Gln Asn Gly Lys
 165 170 175
 Asn Val Phe Val Ser Ala His Gly Asn Ser Leu Arg Ser Leu Ile Met
 180 185 190

Asp Leu Glu Lys Leu Ser Glu Glu Glu Val Leu Ser Leu Glu Leu Pro
 195 200 205
 Thr Gly Lys Pro Val Val Tyr Gln Trp Lys Asn His Lys Ile Glu Lys
 210 215 220
 His Pro Glu Phe Phe Gly
 225 230

<210> 866
 <211> 239
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0864

 <400> 866
 Tyr Gly Val Asn Val Thr Lys Val Arg Leu Asn Lys Phe Leu Ala Ser
 1 5 10 15
 Ala Gly Val Ala Ser Arg Arg Lys Cys Asp Glu Ile Ile Phe Ser Gly
 20 25 30
 Ser Val Thr Val Asn Gly Arg Val Ala Glu Gly Pro Phe Val Leu Val
 35 40 45
 Asp Pro Glu Asp Lys Val Gln Val Gly Gly Thr Ser Val His Leu Thr
 50 55 60
 Lys Lys Val Tyr Phe Met Val His Lys Ala Ile Gly Tyr Leu Cys Ser
 65 70 75 80
 Ser Glu Lys Lys Phe Pro Gly Thr Lys Leu Val Ile Asp Leu Phe Ala
 85 90 95
 His Leu Pro Tyr Arg Val Phe Thr Val Gly Arg Leu Asp Lys Glu Thr
 100 105 110
 Ser Gly Leu Ile Leu Val Thr Asn Asp Gly Glu Phe Ala Asn Lys Ile
 115 120 125
 Ile His Pro Ser Ser Gly Ile Thr Lys Glu Tyr Leu Leu Lys Val Ser
 130 135 140
 Arg Asp Val Ser Ala Lys Asp Leu Gly Lys Leu Met Glu Gly Thr Phe
 145 150 155 160
 Ile Asp Gly Lys His Val Arg Pro Val Ser Val Thr Lys Ile Arg Arg
 165 170 175
 Gly Thr Val Lys Ile Val Val Ser Glu Gly Lys Lys His Glu Ile Arg
 180 185 190
 Leu Phe Ala Asp Ala Ala Gly Phe Pro Ile Leu Glu Leu Lys Arg Ile
 195 200 205
 Arg Ile Gly Ser Leu Val Leu Gly Gly Leu Arg Tyr Gly Glu Tyr Arg
 210 215 220
 Glu Leu Thr Asp Ala Glu Leu Gly Thr Tyr Met Lys Leu Ser Asp
 225 230 235

<210> 867
 <211> 177
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0865

 <400> 867
 Ser Pro Met Gly Tyr Val Phe Tyr Val Ile Ala Gly Ser Ile Phe Leu
 1 5 10 15
 Gly Ile Ser Leu Gly Ala Tyr Cys Gln Leu Tyr Tyr Ser Val Lys Ser
 20 25 30

Val Leu Phe Ser Trp Tyr Leu Leu Thr Val Tyr Ala Leu Glu Lys Arg
 35 40 45
 His Ala Leu Leu Ala Leu Ser Gln Leu Val Gly Glu Glu Asp Ala Gln
 50 55 60
 Ser Gln Lys Glu Ile Asp Phe Leu Ser Gln Cys Asp Lys Leu Ser Trp
 65 70 75 80
 Arg Ala Phe Leu Lys Asn Ser Tyr Glu Ile Ile Pro Thr Phe Lys Glu
 85 90 95
 Met Glu Asp Leu Leu Ser Glu Arg Val Gln Gly Phe Leu Glu Ser Ile
 100 105 110
 Glu Thr Ile Ala Glu His Asp Arg Ala Ile Leu Cys Ile Glu Asn Phe
 115 120 125
 Trp Ala Ser Lys Asn Leu Phe Asp Phe Glu Ile Ala Ala Tyr Glu Glu
 130 135 140
 Ala Val Glu Lys Tyr Leu Lys Leu Arg Gln Arg Ala Pro Leu Arg Leu
 145 150 155 160
 Ala Ser Lys Leu Phe Arg Phe Leu Asp Val Pro Ser Ile Arg Phe Ser
 165 170 175
 Ser

<210> 868
 <211> 193
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0866

<400> 868
 Asn Met Lys Val Ile Tyr Tyr Glu Ile Glu Glu Ile Pro Ser Thr Asn
 1 5 10 15
 Thr Met Ala Lys Ser Tyr Met His Leu Trp Asp Pro Tyr Ala Leu Thr
 20 25 30
 Val Ile Ser Thr Lys Cys Gln Thr Ala Gly Thr Gly Lys Phe Gly Lys
 35 40 45
 Ser Trp Lys Ser Ser Lys Gly Asp Leu Leu Asn Thr Phe Cys Phe Phe
 50 55 60
 Ile Thr Asp Leu His Ile Asp Val Ser Arg Leu Phe Arg Leu Gly Thr
 65 70 75 80
 Glu Ala Val Val Ala Leu Cys Lys Asp Leu Gly Ile Thr Glu Ala Lys
 85 90 95
 Ile Lys Trp Pro Asn Asp Val Leu Val His Gly Glu Lys Leu Cys Gly
 100 105 110
 Val Leu Pro Glu Thr Leu Pro Val Glu Gly Leu Leu Gly Val Val Leu
 115 120 125
 Gly Ile Gly Leu Asn Gly Asn Thr Thr Lys Gln Ala Leu Lys Asp Val
 130 135 140
 Gly Gln Pro Ala Thr Ser Leu Gln Glu Ile Leu Gly His Pro Ile Asp
 145 150 155 160
 Leu Glu Thr Thr Arg Glu Leu Leu Ile His His Leu Leu Gly Val Leu
 165 170 175
 Gln Glu Asn Leu Pro Asp Ser Leu Ala Thr Lys Ser Asn Arg Gly Asn
 180 185 190
 Ile

<210> 869
 <211> 421
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0867

<400> 869

Cys Ile Arg Ile Pro Gln Met His Ile Gly Phe Cys His Cys Val Arg
1 5 10 15
Gly Gly Asn Phe Phe Tyr Phe Val Ile Asn Asn Phe His Ile Leu Glu
20 25 30
Ile Tyr Ser Leu Leu Asn Ser Asn Thr Ile Met Arg Tyr His Lys Tyr
35 40 45
Phe Arg Tyr Val Asn Ser Trp Val Phe Leu Val Val Leu Thr Leu Met
50 55 60
Leu Leu Ser Val Val Val Ile Ser Ser Met Asp Pro Thr Ala Met Leu
65 70 75 80
Val Thr Ser Ser Lys Gly Leu Leu Thr Asn Lys Ser Ile Met Gln Leu
85 90 95
Arg His Phe Ala Leu Gly Trp Val Val Phe Phe Ile Cys Ala Tyr Phe
100 105 110
Asp Tyr His Leu Phe Lys Arg Trp Ala Trp Val Leu Tyr Phe Phe Met
115 120 125
Ile Cys Ala Leu Val Gly Leu Phe Phe Val Pro Ser Val Gln Asn Val
130 135 140
His Arg Trp Tyr Arg Ile Pro Phe Ile His Met Ser Val Gln Pro Ser
145 150 155 160
Glu Tyr Gly Lys Leu Val Ile Val Ile Met Leu Ser Tyr Ile Leu Glu
165 170 175
Ser Arg Lys Ala Asp Ile Thr Ser Lys Thr Thr Ala Phe Leu Ala Cys
180 185 190
Leu Val Val Ala Leu Pro Phe Phe Leu Ile Leu Lys Glu Pro Asp Leu
195 200 205
Gly Thr Ala Leu Val Leu Cys Pro Val Thr Leu Thr Ile Phe Tyr Leu
210 215 220
Ser Asn Val His Ser Leu Leu Val Lys Phe Cys Thr Val Val Ala Thr
225 230 235 240
Ile Gly Ile Ile Gly Ser Leu Leu Ile Phe Ser Gly Ile Val Ser His
245 250 255
Gln Lys Val Lys Pro Tyr Ala Leu Lys Val Ile Lys Glu Tyr Gln Tyr
260 265 270
Glu Arg Leu Ser Pro Ser Asn His His Gln Arg Ala Ser Leu Ile Ser
275 280 285
Ile Gly Leu Gly Gly Ile Arg Gly Arg Gly Trp Lys Thr Gly Glu Phe
290 295 300
Ala Gly Arg Gly Trp Leu Pro Tyr Gly Tyr Thr Asp Ser Val Phe Ser
305 310 315 320
Ala Leu Gly Glu Glu Phe Gly Leu Leu Gly Leu Leu Phe Thr Leu Gly
325 330 335
Leu Phe Tyr Cys Leu Ile Cys Phe Gly Cys Arg Thr Val Ala Val Ala
340 345 350
Thr Asp Asp Phe Gly Lys Leu Leu Ala Ala Gly Ile Thr Val Tyr Leu
355 360 365
Ala Met His Val Leu Ile Asn Ile Ser Met Met Cys Gly Leu Leu Pro
370 375 380
Ile Thr Gly Val Pro Leu Ile Leu Ile Ser Tyr Gly Gly Ser Ser Val
385 390 395 400
Ile Ser Thr Met Ala Ser Leu Gly Val Leu Gln Ser Ile Tyr Ser His
405 410 415
Arg Phe Ala Lys Tyr
420

<210> 870
 <211> 688
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0868

<400> 870
 Asn Phe Arg Asn Gly Leu Gly Val Arg Asp Leu His His Phe Arg Glu
 1 5 10 15
 Tyr Tyr Leu Ile Asn Glu Ile Ile Thr Gly Arg Tyr Val Phe
 20 25 30
 Ser Arg Leu Phe Phe Thr Ser Phe Ser Ala Glu Val Val Asn Thr Phe
 35 40 45
 Phe Glu Ser Gly Met Ser Glu Asp Thr Ser Pro Leu Leu Ser Lys Gln
 50 55 60
 Asn Arg Lys Leu Ser His Asn Leu Pro Leu Lys Ser Ala Tyr Leu Ser
 65 70 75 80
 Leu Gly Thr Tyr Leu Ile Ala Leu Leu Ser Phe Trp Leu His Ala Lys
 85 90 95
 Asn Leu Ser Asn Leu Phe Val Val Phe Thr Phe Phe Leu Ala Gly Thr
 100 105 110
 Pro Ala Leu Ile Lys Ser Leu Asp Asn Ile Cys Gln Lys Val Val Asn
 115 120 125
 Ile Asp Ile Leu Met Thr Ser Ala Ala Phe Gly Ser Ile Phe Ile Gly
 130 135 140
 Gly Ala Leu Glu Gly Ala Leu Leu Leu Val Leu Phe Ala Ile Ser Glu
 145 150 155 160
 Ala Leu Gly Gln Met Val Ser Gly Lys Ala Lys Ser Thr Leu Val Ser
 165 170 175
 Leu Lys Gln Leu Ala Pro Thr Thr Gly Trp Leu Val Leu Glu Asp Gly
 180 185 190
 Asn Leu Gln Lys Val Ala Ile Asn Lys Ile Glu Val Gly Asn Ile Leu
 195 200 205
 Arg Ile Lys Ser Gly Glu Val Val Pro Leu Asp Gly Glu Ile Leu His
 210 215 220
 Gly Ser Ser Ser Ile Asn Leu Met His Leu Thr Gly Glu Lys Val Pro
 225 230 235 240
 Lys Ser Cys His Pro Gly Ser Ile Val Pro Ala Gly Ala His Asn Met
 245 250 255
 Glu Gly Ser Phe Asp Leu Arg Val Leu Arg Thr Gly Ser Asp Ser Thr
 260 265 270
 Ile Ala His Ile Ile Asn Leu Val Ile Gln Ala Gln Asn Ser Lys Pro
 275 280 285
 Arg Leu Gln Gln Arg Leu Asp Lys Tyr Ser Ser Val Tyr Ala Leu Ser
 290 295 300
 Ile Phe Ala Ile Ala Cys Gly Ile Ala Leu Leu Val Pro Leu Phe Thr
 305 310 315 320
 Ser Ile Pro Leu Leu Gly Pro Gln Ser Ala Phe Tyr Arg Ala Leu Ala
 325 330 335
 Phe Leu Ile Ala Ala Ser Pro Cys Ala Leu Ile Ile Ala Ile Pro Ile
 340 345 350
 Ala Tyr Leu Ser Ala Ile Asn Ala Cys Ala Lys His Gly Val Leu Leu
 355 360 365
 Lys Gly Gly Val Ile Leu Asp Arg Leu Val Ser Cys Asn Ser Val Val
 370 375 380
 Met Asp Lys Thr Gly Thr Leu Thr Thr Gly Glu Leu Thr Cys Ile Gly
 385 390 395 400
 Cys Asp Tyr Phe Gly Ser Lys Asn Glu Thr Phe Phe Pro Ser Val Leu
 405 410 415

Ala Leu Glu Gln Ser Ser Ser His Pro Ile Ala Glu Ala Ile Val Ser
 420 425 430
 Tyr Leu Met Glu Gln Lys Val Ser Ser Leu Pro Ala Asp Arg Tyr Leu
 435 440 445
 Thr Val Pro Gly Glu Gly Val Arg Gly Tyr Phe Asn Glu Gln Glu Ala
 450 455 460
 Phe Val Gly Arg Val Glu Thr Gly Leu Gly Lys Val Pro Ser Glu Tyr
 465 470 475 480
 Leu Glu Asp Ile Glu Gln Lys Ile Tyr Gln Ala Lys Gln His Gly Glu
 485 490 495
 Ile Cys Ser Leu Ala Tyr Val Gly Asn Ser Phe Ala Leu Phe Tyr Phe
 500 505 510
 Arg Asp Ile Pro Arg Pro Gln Ala Lys Glu Ile Ile Gln Asp Leu Lys
 515 520 525
 Asp Leu Gly Tyr Pro Val Ser Met Leu Thr Gly Asp His Lys Val Ser
 530 535 540
 Ala Glu Asn Thr Ala Glu Ile Leu Gly Ile Ser Glu Val Phe Phe Asp
 545 550 555 560
 Leu Thr Pro Glu Asp Lys Leu Ala Lys Ile Arg Glu Leu Ala Thr Gln
 565 570 575
 Arg Gln Ile Met Met Val Gly Asp Gly Ile Asn Asp Ala Pro Ala Leu
 580 585 590
 Ala Gln Ala Thr Val Gly Ile Ala Met Gly Glu Ala Gly Ser Ala Thr
 595 600 605
 Ala Ile Glu Ala Ala Asp Ile Val Leu Leu His Asp Ser Leu Ser Ser
 610 615 620
 Leu Pro Trp Ile Ile Gln Lys Ala Lys Gln Thr Lys Lys Val Val Ser
 625 630 635 640
 Gln Asn Leu Ala Leu Ala Leu Ala Ile Ile Leu Leu Val Ser Trp Pro
 645 650 655
 Ala Ser Leu Gly Ile Ile Pro Leu Trp Leu Ala Val Ile Leu His Glu
 660 665 670
 Gly Ser Thr Val Ile Val Gly Leu Asn Ala Leu Arg Leu Leu Lys Ser
 675 680 685

<210> 871
 <211> 274
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0869

<400> 871
 Glu Gly Trp Arg Phe Phe Phe Pro Lys Thr Ser Glu Asn Thr Ser Asp
 1 5 10 15
 Cys Arg Gln His Gln Ile Leu Arg Lys Ile Met Thr Gln Asp Pro His
 20 25 30
 Asp His Phe Lys Ser Arg Thr Pro Glu Asp His Ile Lys His Val Arg
 35 40 45
 Asp Lys His Arg Val Cys Lys Gly Glu Pro His Thr Thr Phe Lys Gly
 50 55 60
 Phe Phe Tyr His Leu Ala Asn Asn Ala Leu Ser Thr Gly Val Phe Ile
 65 70 75 80
 Phe Phe Ile Arg Thr Leu Phe Phe Leu Ile Pro Thr Asn Arg Ala Leu
 85 90 95
 Gln Val Lys Ser Leu Ile Ser Leu Gly Val Gly Trp Thr Phe Tyr His
 100 105 110
 Gly Cys Leu Lys Ala Arg Lys Ala Trp Ala Tyr Met Glu Leu Ser His
 115 120 125

Arg Ser Met Leu Glu Glu Lys Asn Glu Ile Glu Glu Asn Phe Glu Gln
 130 135 140
 Glu Lys Ile Glu Leu Arg Ile Leu Phe Glu Asn Gln Gly Phe Lys Asp
 145 150 155 160
 Pro Leu Leu Gln Glu Met Val Glu Tyr Val Cys Ser Asp Ser Thr Leu
 165 170 175
 Leu Leu Asp Thr Met Ile Arg Glu Glu Leu Tyr Ile Arg Lys Glu Asp
 180 185 190
 Leu Pro His Pro Leu Ile Gln Gly Gly Ser Arg Ile Leu Gly Gly Leu
 195 200 205
 Cys Gly Leu Ala Ile Phe Leu Pro Leu Val Leu Cys Ile Ser Tyr Thr
 210 215 220
 Leu Ala Gly Val Phe Ser Ala Leu Met Val Leu Val Leu Ser Phe Leu
 225 230 235 240
 Lys Ala Lys Ile Leu Lys Asn Asp Lys Ile Ser Glu Met Val Trp Val
 245 250 255
 Leu Gly Ile Phe Ile Thr Ser Ala Ser Ile Ile Ser Ser Leu Met Lys
 260 265 270
 Leu Leu

<210> 872
 <211> 478
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0870

<400> 872
 Thr Thr Thr His Pro Thr Gln Gly Phe Gly Gly Ala Val Ile Leu Pro
 1 5 10 15
 Phe Ser Pro Ile Ser Ile Ala Arg Arg Ile Lys Lys Ser Cys Cys Ser
 20 25 30
 Glu Lys Ser Ser Ile Tyr Ser His Phe Cys Thr Leu Leu Leu Asn Asn
 35 40 45
 Glu Thr Ser Met Leu Asp Ile Lys Ile Ile Arg Lys Thr Pro Glu Glu
 50 55 60
 Cys Glu Thr Arg Leu Arg Lys Lys Asp Pro Lys Ile Ser Leu Glu Pro
 65 70 75 80
 Val Leu Ser Leu Asp Lys Glu Val Arg Gln Leu Lys Thr Asp Ser Glu
 85 90 95
 Thr Leu Gln Ala Gln Arg Arg Leu Leu Ser Gln Asp Ile His Lys Ala
 100 105 110
 Lys Thr Gln Gly Val Asp Ala Thr Asn Leu Ile Gln Glu Val Glu Thr
 115 120 125
 Leu Ala Ala Asp Leu Glu Lys Ile Glu Gln His Leu Asp Gln Lys Asn
 130 135 140
 Ala Gln Leu His Glu Leu Leu Ser His Leu Pro Asn Tyr Pro Ala Asp
 145 150 155 160
 Asp Ile Pro Val Ser Glu Asp Lys Ala Gly Asn Gln Val Ile Lys Ser
 165 170 175
 Val Gly Asp Leu Pro Ile Phe Ser Phe Pro Pro Lys His His Leu Glu
 180 185 190
 Leu Asn Gln Glu Leu Asp Ile Leu Asp Phe Gln Ala Ala Ala Lys Thr
 195 200 205
 Thr Gly Ser Gly Trp Pro Ala Tyr Lys Asn Arg Gly Val Leu Leu Glu
 210 215 220
 Trp Ala Leu Leu Thr Tyr Met Leu Gln Lys Gln Ala Ala His Gly Phe
 225 230 235 240

Ala	Ala	Ser	Val	Asp	Gly	Gln	Val	Ala	Asp	Ser	Gln	Gly	Lys	Ser	Gln
				165					170					175	
Trp	Ile	Thr	Cys	Pro	Glu	Ala	Arg	His	Asp	Val	Gly	Lys	Leu	Arg	Ala
			180					185					190		
Glu	Ser	Gln	Ala	Ile	Leu	Val	Gly	Ser	Arg	Thr	Val	Leu	Ser	Asp	Asp
		195					200					205			
Pro	Trp	Leu	Thr	Ala	Arg	Gln	Pro	Gln	Gly	Met	Leu	Tyr	Pro	Lys	Gln
	210					215					220				
Pro	Leu	Arg	Val	Val	Leu	Asp	Ser	Arg	Gly	Ser	Val	Pro	Pro	Thr	Ser
225					230					235				240	
Lys	Val	Phe	Asp	Lys	Thr	Ser	Pro	Thr	Leu	Tyr	Val	Thr	Thr	Glu	Arg
			245						250					255	
Cys	Pro	Glu	Asn	Tyr	Ile	Lys	Val	Leu	Asp	Ser	Leu	Asp	Val	Pro	Val
			260					265					270		
Leu	Leu	Thr	Glu	Ser	Thr	Pro	Ser	Gly	Val	Asp	Leu	His	Lys	Val	Tyr
	275					280						285			
Glu	Tyr	Leu	Ala	Gln	Lys	Lys	Ile	Leu	Gln	Val	Leu	Val	Glu	Gly	Gly
	290					295					300				
Thr	Thr	Leu	His	Thr	Ser	Leu	Leu	Lys	Glu	Arg	Phe	Val	Asn	Ser	Leu
305					310					315					320
Val	Leu	Tyr	Ser	Gly	Pro	Met	Ile	Leu	Gly	Asp	Gln	Lys	Arg	Pro	Leu
				325					330					335	
Val	Gly	Val	Leu	Gly	Asn	Leu	Leu	Glu	Ser	Ala	Ser	Pro	Leu	Thr	Leu
			340					345					350		
Lys	Ser	Ser	Gln	Ile	Leu	Gly	Asn	Ser	Leu	Lys	Val	Val	Trp	Glu	Ile
	355					360						365			
Ser	Pro	Gln	Val	Phe	Glu	Pro	Ile	Arg	Asn						
	370					375									

<210> 874

<211> 438

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0872

<400> 874

Lys	Glu	Arg	Ile	Phe	Arg	Val	Ala	Cys	Leu	Ala	Ser	Glu	Ser	Val	Asn
1				5					10					15	
Ala	Arg	Glu	Ser	Met	Ile	Glu	Thr	Arg	Glu	Glu	Val	Gly	Ser	Ala	Asn
		20						25					30		
Phe	Val	Ser	Leu	Glu	Arg	Ala	Ile	Glu	Asp	Leu	Arg	Ala	Gly	Lys	Phe
		35					40					45			
Val	Ile	Val	Val	Asp	Glu	Ala	Ser	Arg	Glu	Asp	Glu	Gly	Asp	Leu	Ile
	50					55					60				
Ile	Ala	Gly	Glu	Lys	Ile	Thr	Val	Glu	Lys	Met	Thr	Phe	Leu	Leu	Gln
65					70					75				80	
His	Thr	Thr	Gly	Val	Val	Cys	Ala	Ala	Leu	Ser	Gln	Glu	Arg	Leu	Leu
			85						90					95	
Ser	Leu	Asp	Leu	Pro	Pro	Met	Val	Lys	Asp	Asn	Arg	Cys	Arg	Phe	Lys
		100						105					110		
Thr	Pro	Phe	Thr	Val	Ser	Val	Asp	Ala	Ala	His	Gly	Val	Thr	Thr	Gly
		115					120					125			
Val	Ser	Ala	Ala	Asp	Arg	Thr	Lys	Val	Val	Gln	Leu	Leu	Ala	Asp	Pro
	130					135					140				
Lys	Ser	Lys	Pro	Glu	Asp	Phe	Ile	Ser	Pro	Gly	His	Phe	Phe	Pro	Leu
145					150					155					160
Ala	Ser	Ser	Pro	Gly	Gly	Val	Leu	Lys	Arg	Ala	Gly	His	Thr	Glu	Ser
				165					170					175	

Thr Val Asp Leu Met Glu Leu Ala Gly Leu Gln Pro Cys Gly Val Leu
 180 185 190
 Ala Glu Leu Val Asn Glu Asp Tyr Ser Met Met Arg Leu Pro Gln Ile
 195 200 205
 Leu Glu Phe Ala Arg Lys His Asn Ile Ala Val Ile Pro Val Thr Ser
 210 215 220
 Ile Ile Ala His Arg Met Leu Ser Asp Arg Leu Val Ser Lys Ile Ser
 225 230 235 240
 Ser Ala Arg Leu Pro Thr Ile Tyr Gly Asp Phe Thr Ile His Val Tyr
 245 250 255
 Glu Ser Leu Leu Glu Gly Met Gln His Leu Ala Leu Val Lys Gly Asn
 260 265 270
 Val Ala Gly Lys Ser Asn Val Leu Val Arg Val His Ser Glu Cys Val
 275 280 285
 Thr Gly Asp Ile Leu Gly Ser Lys Arg Cys Asp Cys Gly Glu Gln Leu
 290 295 300
 Ser Ser Ala Met Ser Tyr Ile Ala Glu Lys Gly Thr Gly Val Leu Val
 305 310 315 320
 Tyr Leu Arg Gly Gln Glu Gly Arg Gly Ile Gly Leu Gly His Lys Val
 325 330 335
 Arg Ala Tyr Ala Leu Gln Asp Asn Gly Tyr Asp Thr Val Asp Ala Asn
 340 345 350
 Leu Ala Met Gly Phe Pro Val Asp Ser Arg Glu Tyr Gly Ile Gly Ala
 355 360 365
 Gln Ile Leu Val Asp Leu Lys Leu Thr Thr Ile Lys Leu Ile Thr His
 370 375 380
 Asn Pro Gln Lys Tyr Phe Gly Leu Gln Gly Phe Gly Leu Ser Ile Thr
 385 390 395 400
 Glu Arg Val Pro Leu Pro Val Arg Ile Ser Glu Asp Asn Glu Gln Tyr
 405 410 415
 Leu Arg Thr Lys Gln Glu Arg Met Gly His Trp Leu Asp Leu Pro Cys
 420 425 430
 Cys Asn Asn Arg Val Gln
 435

<210> 875
 <211> 169
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0873

<400> 875
 Ile Ser His Ala Val Thr Ile Gly Tyr Asn Asn Phe Glu Glu Tyr Met
 1 5 10 15
 Lys Thr Leu Lys Gly His Leu Ser Ala Lys Asn Leu Arg Ile Ala Ile
 20 25 30
 Val Gly Ser Cys Phe Asn Gln Ala Met Ala Asp Ala Leu Val Ser Gly
 35 40 45
 Thr Gln Glu Thr Phe Leu Lys Phe Gly Gly Ser Glu Asp Gly Leu Met
 50 55 60
 Thr Ile Arg Val Pro Gly Ala Phe Glu Ile Pro Cys Thr Ile Lys Lys
 65 70 75 80
 Leu Leu Ser Ser Glu Arg Lys Phe Asp Ala Ile Val Ala Cys Gly Val
 85 90 95
 Leu Ile Gln Gly Glu Thr Asp His Tyr Asn Gln Ile Val Asn Gln Val
 100 105 110
 Ala Ala Gly Ile Gly Ala Leu Ser Leu Glu Phe Cys Leu Pro Ile Thr
 115 120 125

Leu Ser Ile Val Ala Ala Pro Ser Ala Glu Ile Ala Trp Gln Arg Ser
 130 135 140
 Gly Ile Lys Gly Arg His Leu Gly Val Ser Gly Met Thr Thr Ala Ile
 145 150 155 160
 Glu Met Ala Thr Leu Phe Thr Gln Ile
 165

<210> 876
 <211> 472
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0874

<400> 876
 Leu Ile Ser Leu Asn Leu Lys Ile Leu Thr Lys Gln Arg Asp Arg Glu
 1 5 10 15
 Glu Ala Ser Met Leu Lys Ile Leu Lys Ile Lys Val Leu Val Phe Pro
 20 25 30
 Leu Ala Leu Leu Met Gly Cys Asn Ser Ile Gly Tyr Ala Gly Pro Gln
 35 40 45
 Gly Ser Leu Gln Thr Asn Ser Gln Thr Lys Val Lys Ile Gly Ser Glu
 50 55 60
 Val Trp Ile Glu Gln Lys Leu Arg Gln Tyr Pro Glu Leu Leu Trp Leu
 65 70 75 80
 Thr Glu Ser Gly Gly Ala Pro Leu Leu Thr Ser Thr Pro Ile Asp Met
 85 90 95
 Ala Tyr Ser Glu Lys Leu Phe Asn Lys Lys Val Pro Ala Leu Asp Ile
 100 105 110
 Ala Ile Arg Ser Met Ile His Leu His Leu Leu Ile Gln Gly Ser Arg
 115 120 125
 Gln Ser Tyr Met Gln Leu Ser Gln Ile Leu Pro Ser Glu Glu Gly Gly
 130 135 140
 Met Thr Phe Lys Gln Phe Gln Thr Ala His Lys Gln Leu Leu Phe Phe
 145 150 155 160
 Leu Asn Ser Pro Lys Ser Phe Asp Asn Thr Leu Arg Ile Leu Glu Thr
 165 170 175
 Ala Ile Val Leu Arg His Val Gly Cys Ser Ala Lys Ala Val Thr Thr
 180 185 190
 Phe Lys Pro Tyr Phe Thr Asp Ser Cys Pro Gln Ser Phe Tyr Ala Lys
 195 200 205
 Ala Leu His Val Leu Arg Thr Phe Pro Glu Leu Cys Pro Ser Tyr Ala
 210 215 220
 Arg Leu Ser Pro Glu Gln Gln Glu Val Leu Leu Ser Leu Arg Arg Leu
 225 230 235 240
 Gly Asn Tyr Asp Ser Leu Leu Asn Leu Thr Glu Val Pro Ser Ala Gln
 245 250 255
 Leu Leu Ser Ala Trp Arg Thr Arg Arg Ser Leu Ala Ile Leu Asp Leu
 260 265 270
 Tyr Leu Tyr Cys Leu Asp Thr Cys Gly Asp Lys Asn Cys Ser Gln Glu
 275 280 285
 Phe Tyr Ile Asn Phe Ala Pro Leu Leu Ser Met Leu Gln Gln His Ala
 290 295 300
 Thr Ile Glu Glu Ala Phe Ser Arg Tyr Phe Thr Tyr Arg Ala Asn Arg
 305 310 315 320
 Leu Gly Phe Glu Gly Thr Ser Arg Thr Asp Met Thr Leu Val Arg Leu
 325 330 335
 Ala Thr Leu Met Asn Leu Ser Pro Ser Glu Ala Ser Thr Leu Ala Trp
 340 345 350

Ser Phe Lys Asn Leu Pro Ser Asp Glu Ala Glu Asn Leu Val Asn Ser
 355 360 365
 Phe Tyr Thr Val Gln Gly Glu His Ile Pro Leu Thr Phe Arg Gly Leu
 370 375 380
 Pro Ser Leu Val Ala Gly Leu Ser Val Ala Thr His Gly Ser Thr Val
 385 390 395 400
 Ser Pro Glu Asn Arg Leu Arg Gln Leu Tyr Ser Thr Met Leu Ser Leu
 405 410 415
 Leu Val Lys Ser Leu Arg Ser His Arg Glu Met Leu Asn Lys Gln Leu
 420 425 430
 Leu Pro Gln Gly Thr Val Leu Asp Phe Ser Glu Thr Thr Leu Ser Ser
 435 440 445
 Gly Gly Leu Asp Val Phe Ala Glu Ser Ile Ala Val Arg Ile His Leu
 450 455 460
 Asn Gly Ala Val Ser Ile Asn Leu
 465 470

<210> 877
 <211> 220
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0875

<400> 877
 Leu Lys Ile Met Lys Arg Val Ile Tyr Lys Thr Ile Phe Cys Gly Leu
 1 5 10 15
 Thr Leu Leu Thr Ser Leu Ser Ser Cys Ser Leu Asp Pro Lys Gly Tyr
 20 25 30
 Asn Leu Glu Thr Lys Asn Ser Arg Asp Leu Asn Gln Glu Ser Val Ile
 35 40 45
 Leu Lys Glu Asn Arg Glu Thr Pro Ser Leu Val Lys Arg Leu Ser Arg
 50 55 60
 Arg Ser Arg Arg Leu Phe Ala Arg Arg Asp Gln Thr Gln Lys Asp Thr
 65 70 75 80
 Leu Gln Val Gln Ala Asn Phe Lys Thr Tyr Ala Glu Lys Ile Ser Glu
 85 90 95
 Gln Asp Glu Arg Asp Leu Ser Phe Val Val Ser Ser Ala Ala Glu Lys
 100 105 110
 Ser Ser Ile Ser Leu Ala Leu Ser Gln Gly Glu Ile Lys Asp Ala Leu
 115 120 125
 Tyr Arg Ile Arg Glu Val His Pro Leu Ala Leu Ile Glu Ala Leu Ala
 130 135 140
 Glu Asn Pro Ala Leu Ile Glu Gly Met Lys Lys Met Gln Gly Arg Asp
 145 150 155 160
 Trp Ile Trp Asn Leu Phe Leu Thr Gln Leu Ser Glu Val Phe Ser Gln
 165 170 175
 Ala Trp Ser Gln Gly Val Ile Ser Glu Glu Asp Ile Ala Ala Phe Ala
 180 185 190
 Ser Thr Leu Gly Leu Asp Ser Gly Thr Val Ala Ser Ile Val Gln Gly
 195 200 205
 Glu Arg Trp Pro Glu Leu Val Asp Ile Val Ile Thr
 210 215 220

<210> 878
 <211> 465
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0876

<400> 878

Ser Ile Ala Thr Gly Glu Thr Met Leu Tyr Phe Ile Glu Gln Leu Asn
1 5 10 15
Lys Leu Ser Thr Ser Phe Cys Val Phe Pro Met Ile Leu Leu Gly
20 25 30
Gly Phe Leu Thr Trp Lys Leu Arg Gly Leu Gln Phe His Gly Leu Lys
35 40 45
Leu Gly Phe Asn Leu Met Leu Gln Asn Lys Leu Asp Asp Ser Ser Ser
50 55 60
Lys Ala Asn Glu Val Ser Ser Tyr Glu Ala Val Ala Gly Ile Leu Ala
65 70 75 80
Gly Asn Phe Gly Thr Gly Asn Ile Ala Gly Met Ala Val Ala Leu Ala
85 90 95
Cys Gly Gly Pro Gly Ala Leu Val Trp Val Trp Leu Ala Ala Leu Leu
100 105 110
Gly Ala Ile Val Gln Tyr Ala Gly Ser Tyr Leu Gly Ser Lys Tyr Arg
115 120 125
Lys Pro Glu Gly Asn Thr Gly Glu Phe Ile Gly Gly Pro Ile Ala Cys
130 135 140
Leu Ala Phe Gly Met Arg Lys Lys Ile Leu Ala Gly Phe Phe Ala Leu
145 150 155 160
Phe Thr Ile Met Thr Ala Phe Cys Ala Gly Asn Cys Val Gln Val Ser
165 170 175
Cys Ile Val Pro Leu Cys Ala Glu Gly Thr Pro Gly Lys Leu Leu Val
180 185 190
Gly Ile Leu Leu Ala Leu Val Val Ile Pro Val Leu Ala Gly Gly Asn
195 200 205
Asn Arg Ile Leu Arg Phe Ser Ala Arg Val Ile Pro Phe Ile Ala Gly
210 215 220
Phe Tyr Cys Ile Ser Cys Gly Ile Ile Leu Phe Gln His Ala Ser Ala
225 230 235 240
Ile Leu Pro Ala Ile Lys Leu Ile Cys Ser Ser Ala Phe Gly Ile Lys
245 250 255
Ala Gly Leu Ala Gly Ile Gly Gly Tyr Thr Leu Ser Gln Val Ile Ser
260 265 270
Thr Gly Ile Asn Arg Ala Val Met Ala Thr Asp Cys Gly Ser Gly Met
275 280 285
Val Ser Ile Leu Gln Ala Asn Thr Lys Ser Lys Asn Pro Val Val Asp
290 295 300
Gly Leu Val Thr Leu Val Pro Pro Val Ile Val Met Val Val Cys Ser
305 310 315 320
Ile Thr Met Leu Val Leu Ile Val Ser Gly Ala Tyr Ser Ser Gly Ala
325 330 335
Gln Gly Thr Leu Met Val Met Ser Ala Phe Lys Asn Ser Leu Gly Ser
340 345 350
Leu Gly Ser Val Ile Val Ile Leu Ala Met Ala Leu Phe Gly Tyr Thr
355 360 365
Thr Ile Leu Thr Trp Phe Ala Cys Ala Glu Lys Ser Leu Gln Tyr Met
370 375 380
Ile Pro Gly Arg Arg Ala Asn Leu Trp Leu Lys Ala Ile Tyr Val Leu
385 390 395 400
Ile Ile Pro Leu Gly Gly Val Ile Asp Met Arg Met Ile Trp Ala Leu
405 410 415
Ser Asp Thr Gly Phe Ser Gly Met Val Ile Leu Asn Cys Ile Ala Leu
420 425 430
Ile Ala Leu Leu Lys Asp Val Leu Ser Thr Asn Arg Asp Val Ala Leu
435 440 445

Leu Lys Glu Arg Glu Cys Ser Val Ala Asp Pro Val Arg Asn Leu Asp
 450 455 460
 Ala
 465

<210> 879
 <211> 154
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0877

<400> 879
 Arg Arg Arg Ile Met Gln Leu Leu Ser Pro Ala Phe Ala Tyr Gly Ala
 1 5 10 15
 Pro Ile Pro Lys Tyr Thr Cys Gln Gly Ala Gly Ile Ser Pro Pro
 20 25 30
 Leu Thr Phe Val Asp Val Pro Gly Ala Ala Gln Ser Leu Ala Leu Ile
 35 40 45
 Val Glu Asp Pro Asp Val Pro Lys Glu Ile Arg Ser Asp Gly Leu Trp
 50 55 60
 Ile His Trp Ile Val Tyr Asn Leu Ser Thr Thr Ile Thr Asn Leu Ala
 65 70 75 80
 Glu Gly Ala Glu Ile Phe Ala Val Gln Gly Leu Asn Thr Ser Gly Lys
 85 90 95
 Pro Val Tyr Glu Gly Pro Cys Pro Pro Asp Lys Gln His Arg Tyr Phe
 100 105 110
 Phe Thr Leu Phe Ala Leu Asp Val Val Leu Pro Glu Glu Glu Asn Val
 115 120 125
 Thr Arg Asp Gln Leu Tyr Glu Ala Met Glu Phe His Ile Ile Glu Gln
 130 135 140
 Ala Glu Leu Met Gly Thr Tyr Glu Lys Ser
 145 150

<210> 880
 <211> 223
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0878

<400> 880
 Gly Cys Met Ser Thr Val Thr Thr Glu Pro Cys Ser Ser Ile His Ile
 1 5 10 15
 Ser Leu Asn Asn Asp Trp Arg Asp Ser Gln Pro Tyr Ser Leu Asp Arg
 20 25 30
 Ala Ser Glu Leu Leu His Phe Arg Phe Leu Pro Ser Leu Val Phe Ser
 35 40 45
 Asn Trp Lys Val Glu Gln Gln Ile Glu Thr Leu Cys His Lys Ser Glu
 50 55 60
 Lys Arg Arg Leu Ile Ser Pro Leu Ala Lys Trp Leu Gly Lys Leu His
 65 70 75 80
 Lys Gln Asp Leu Leu Cys Pro Pro Ala Pro Pro Val Ser Val Cys Trp
 85 90 95
 Ile Asn Ala His Val Gly Tyr Gly Val Phe Ala Arg Asp Glu Ile Ala
 100 105 110
 Pro Trp Thr Tyr Ile Gly Glu Tyr Thr Gly Ile Leu Arg His Arg Gln
 115 120 125

Ala	Ile	Trp	Met	Asp	Glu	Asn	Asp	Tyr	Cys	Phe	Arg	Tyr	Pro	Met	Pro
130						135					140				
Leu	Phe	Thr	Leu	Arg	Tyr	Phe	Thr	Ile	Asp	Ser	Gly	Lys	Gln	Gly	Asn
145					150					155					160
Val	Thr	Arg	Phe	Ile	Asn	His	Ser	Glu	Gln	Pro	Asn	Ala	Glu	Ala	Ile
				165					170					175	
Gly	Val	Phe	Ser	Glu	Gly	Leu	Phe	His	Val	Ile	Ile	Arg	Thr	Val	Ala
			180					185					190		
Pro	Ile	Tyr	Ala	Gly	Gln	Glu	Ile	Cys	Tyr	His	Tyr	Gly	Pro	Leu	Tyr
	195						200					205			
Trp	Lys	His	Arg	Lys	Lys	Arg	Glu	Glu	Phe	Ile	Pro	Glu	Glu	Glu	
210						215					220				

<210> 881
 <211> 273
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0879

<400> 881

Tyr	Arg	Ile	Leu	Trp	Lys	Val	Ser	Met	Gln	Gly	Phe	Phe	Pro	Leu	Ala
1			5						10					15	
Ser	Gly	Ser	Lys	Gly	Asn	Ser	Ala	Tyr	Leu	Gly	Thr	Asp	Ser	Cys	Lys
			20					25					30		
Ile	Leu	Ile	Asp	Leu	Gly	Val	Ser	Lys	Gln	Val	Val	Thr	Arg	Glu	Leu
	35					40						45			
Leu	Ser	Met	Asn	Ile	Asp	Pro	Glu	Asp	Ile	Gln	Ala	Ile	Phe	Val	Thr
	50				55						60				
His	Glu	His	Ser	Asp	His	Ile	Ser	Gly	Ile	Lys	Ser	Phe	Val	Lys	Ala
65					70					75				80	
Tyr	Asn	Thr	Pro	Ile	Val	Cys	Asn	Leu	Glu	Thr	Ala	Arg	Ala	Leu	Cys
			85					90						95	
His	Leu	Leu	Asp	Ser	His	Pro	Glu	Phe	Lys	Ile	Phe	Ser	Thr	Gly	Ser
			100					105					110		
Ser	Phe	Cys	Phe	Gln	Asp	Leu	Glu	Val	Gln	Thr	Phe	Asn	Val	Pro	His
	115					120						125			
Asp	Ala	Val	Asp	Pro	Val	Ala	Phe	Ile	Phe	His	Tyr	Arg	Glu	Glu	Lys
	130					135						140			
Leu	Gly	Phe	Cys	Thr	Asp	Leu	Gly	Trp	Val	Thr	Ser	Trp	Ile	Thr	His
145					150					155				160	
Glu	Leu	Tyr	Asp	Cys	Asp	Tyr	Leu	Leu	Ile	Glu	Ser	Asn	His	Ser	Pro
			165					170						175	
Glu	Leu	Val	Arg	Gln	Ser	Gln	Arg	Pro	Asp	Val	Tyr	Lys	Lys	Arg	Val
			180					185					190		
Leu	Ser	Lys	Leu	Gly	His	Ile	Ser	Asn	Gln	Glu	Cys	Gly	Gln	Leu	Leu
	195						200					205			
Gln	Lys	Ile	Ile	Thr	Pro	Lys	Leu	Lys	Lys	Leu	Tyr	Leu	Ala	His	Leu
	210					215						220			
Ser	Thr	Glu	Cys	Asn	Thr	Ala	Glu	Leu	Ala	Leu	Ser	Thr	Val	Ser	Glu
225					230					235				240	
Ser	Ile	Ala	Ser	Ile	Thr	Ser	Ile	Ala	Pro	Glu	Ile	Ala	Leu	Ala	Gln
			245						250					255	
Gly	Ile	Thr	Ser	Pro	Ile	Tyr	Phe	Ser	Arg	Leu	Glu	Val	Ala	Cys	Pro
			260					265					270		

Arg

<210> 882
 <211> 807
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0880

<400> 882
 Pro Met Ile Arg Glu Arg Lys Lys Ser Arg His Pro Arg Leu Pro Thr
 1 5 10 15
 Leu Pro Leu Ala Ala Lys Ala Ser Leu Tyr Leu Phe Phe Ala Cys Phe
 20 25 30
 Ser Gly Leu Ser Leu Trp Ser Phe His Arg Asp Gln Pro Cys Thr Gln
 35 40 45
 Asn Trp Ile Gly Leu Leu Gly Trp Ser Phe Ser Ser Phe Leu Leu Tyr
 50 55 60
 Phe Phe Gly Ala Ala Ala Phe Phe Ile Pro Leu Tyr Phe Leu Trp Leu
 65 70 75 80
 Ser Phe Leu Tyr Phe Arg Arg Thr Pro Arg Pro Leu Phe Phe Tyr Lys
 85 90 95
 Ala Ala Ala Phe Leu Ser Leu Pro Phe Cys Ser Ala Ile Leu Leu Ser
 100 105 110
 Met Leu Ser Pro Val Gly Thr Leu Pro Ala Leu Leu Asp Thr Arg Leu
 115 120 125
 Pro Lys Phe Ile Leu Gly Asn Asn Pro Pro Val Ser Tyr Val Gly Gly
 130 135 140
 Ile Pro Phe Tyr Leu Phe Tyr Glu Gly Gln Ser Phe Cys Leu Lys His
 145 150 155 160
 Leu Ile Gly Ser Val Gly Thr Ala Leu Ile Phe Gly Phe Val Met Leu
 165 170 175
 Phe Ser Val Leu Tyr Leu Cys Gly Gly Ile Ala Leu Leu Lys Lys Lys
 180 185 190
 Thr Phe Gln Asp Gly Val Lys Lys Ala Phe Cys Ser Phe Phe Gln Thr
 195 200 205
 Cys Phe Lys Asn Leu Lys Lys Leu Ile Asn Arg Arg Asn Tyr Leu Pro
 210 215 220
 Lys Pro Ser Val Pro Phe Val Ser Lys Asn Pro Phe Ser Cys Thr Lys
 225 230 235 240
 Ser Gln Pro Ser Pro Arg Arg Val Ser Glu Thr Ile Ile Leu Asp Gly
 245 250 255
 Ser Ile Ser Pro Leu Pro Gln Glu Glu Ile Pro Gly Ser Lys Lys Glu
 260 265 270
 Ser Phe Phe Leu Thr Pro His Pro Cys Lys Arg Phe Leu Thr Lys Phe
 275 280 285
 Val Glu Pro Gln Glu Asn Lys Ala Lys Glu Gly Lys Thr Ile Ala Leu
 290 295 300
 Ser Ser Thr Pro Thr Val Val Arg Glu Ser Lys Gly Lys Glu Arg Ala
 305 310 315 320
 Ala Leu Pro Lys Leu Lys Ser Leu Ala Val Pro Glu Asn Asp Leu Pro
 325 330 335
 Gln Tyr His Leu Leu Ser Lys Asn Arg Glu Ala Arg Pro Glu Ser Leu
 340 345 350
 Gln Ala Glu Leu Glu Arg Lys Ala Leu Ile Leu Lys Gln Thr Leu Thr
 355 360 365
 Ser Phe Gly Ile Asp Ala Asp Leu Gly Asn Ile Cys Ser Gly Pro Thr
 370 375 380
 Leu Ala Ala Phe Glu Val Leu Pro His Ser Gly Val Lys Val Gln Lys
 385 390 395 400
 Ile Lys Ser Leu Glu Asn Asp Ile Ala Leu Lys Leu Gln Ala Ser Ser
 405 410 415

Ile Arg Ile Ile Ala Pro Ile Pro Gly Lys Ala Ala Val Gly Ile Glu
 420 425 430
 Ile Pro Thr Pro Phe Pro Gln Ala Val Asn Phe Arg Asp Leu Leu Glu
 435 440 445
 Asp Tyr Gln Lys Thr Asn Arg Lys Leu Gln Ile Pro Leu Leu Leu Gly
 450 455 460
 Lys Lys Ala Asn Gly Asp Asn Leu Trp Ala Asp Leu Ala Thr Met Pro
 465 470 475 480
 His Leu Ile Ile Ala Gly Thr Thr Gly Ser Gly Lys Ser Val Cys Ile
 485 490 495
 Asn Thr Ile Val Met Ser Met Ile Met Thr Thr Leu Pro Ser Glu Ile
 500 505 510
 Lys Leu Val Ile Ile Asp Pro Lys Lys Val Glu Leu Thr Gly Tyr Ser
 515 520 525
 Gln Leu Pro His Met Leu Ser Pro Val Ile Thr Glu Ser Arg Glu Val
 530 535 540
 Tyr Asn Ala Leu Val Trp Leu Val Lys Glu Met Glu Ser Arg Tyr Glu
 545 550 555 560
 Ile Leu Arg Tyr Leu Gly Leu Arg Asn Ile Gln Ala Phe Asn Ser Arg
 565 570 575
 Thr Arg Asn Lys Thr Ile Glu Ala Ser Tyr Asp Arg Glu Ile Arg Glu
 580 585 590
 Thr Met Pro Phe Met Val Gly Ile Ile Asp Glu Leu Ser Asp Leu Leu
 595 600 605
 Leu Ser Ser Ser Gln Asp Ile Glu Thr Pro Ile Ile Arg Leu Ala Gln
 610 615 620
 Met Ala Arg Ala Val Gly Ile His Leu Ile Leu Ala Thr Gln Arg Pro
 625 630 635 640
 Ser Arg Glu Val Ile Thr Gly Leu Ile Lys Ala Asn Phe Pro Ser Arg
 645 650 655
 Ile Ser Phe Lys Val Ser Asn Lys Val Asn Ser Gln Ile Ile Ile Asp
 660 665 670
 Glu Pro Gly Ala Glu Asn Leu Met Gly Asn Gly Asp Met Leu Val Leu
 675 680 685
 Leu Pro Ser Val Phe Gly Thr Ile Arg Ala Gln Gly Ala Tyr Ile Cys
 690 695 700
 Asp Glu Asp Ile Asn Lys Val Ile Gln Asp Leu Cys Ser Arg Phe Pro
 705 710 715 720
 Thr Gln Tyr Val Ile Pro Ser Phe His Ala Phe Asp Asp Ser Asp Ser
 725 730 735
 Asp Asn Ser Gly Glu Lys Asp Pro Leu Phe Ala Gln Ala Lys Thr Leu
 740 745 750
 Ile Leu Gln Thr Gly Asn Ala Ser Thr Thr Phe Leu Gln Arg Lys Leu
 755 760 765
 Lys Ile Gly Tyr Ala Arg Ala Ala Ser Leu Ile Asp Gln Leu Glu Glu
 770 775 780
 Ala Arg Ile Ile Gly Pro Ser Glu Gly Ala Lys Pro Arg Gln Ile Leu
 785 790 795 800
 Ile Gln Asn Pro Leu Glu Gly
 805

<210> 883
 <211> 188
 <212> PRT
 <213> Chlamydia pneumoniae

 <220>
 <223> CPn0881

<400> 883

Asn	Lys	Lys	Phe	Ala	Val	His	Met	Pro	Val	Pro	Ile	Asp	Asn	Ser	Ser
1				5					10					15	
Arg	Asn	Leu	Gln	Glu	Val	Pro	Glu	Ser	Leu	Glu	Asp	Leu	Glu	Gln	His
			20					25					30		
Ala	Glu	Glu	Ser	Pro	Thr	His	Gln	Ser	Ala	Glu	Ser	Ser	Ser	Leu	Gln
		35					40					45			
Leu	Ser	Leu	Ala	Ser	Ser	Ala	Ile	Ser	Ser	Arg	Val	Glu	Gln	Leu	Ser
		50				55					60				
Ser	Leu	Val	Leu	Gly	Met	Glu	Asn	Ser	Asp	Phe	Ser	Ser	Leu	Arg	Asp
65					70					75				80	
Val	Pro	Ile	Phe	Ser	Ala	Ile	Tyr	Glu	Ser	Ser	Thr	His	Thr	Pro	Val
				85					90					95	
Pro	Thr	Pro	Leu	Val	Gly	Val	Gly	Tyr	Ile	Asn	Gly	Ser	Gln	Ser	Gly
			100					105					110		
Tyr	Tyr	Asp	Thr	Gln	Arg	Glu	Ser	Leu	His	Leu	Ser	Gln	Leu	Leu	Gly
		115					120					125			
Ser	Arg	Arg	Val	Glu	Val	Val	Tyr	Asn	Gln	Gly	Asn	Phe	Met	Glu	Ala
		130				135					140				
Ser	Leu	Leu	Asn	Leu	Cys	Pro	Arg	Arg	Pro	Arg	Arg	Asp	Pro	Ser	Pro
145					150					155				160	
Ile	Ser	Leu	Ala	Leu	Leu	Glu	Leu	Trp	Glu	Ala	Phe	Phe	Leu	Glu	His
				165					170					175	
Pro	Pro	Gly	Ser	Thr	Phe	Asn	Pro	Ile	Phe	Phe	Trp				
			180					185							

<210> 884

<211> 412

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0882

<400> 884

Asn	Thr	Pro	Gln	Val	Ala	Leu	Leu	Ile	Gln	Tyr	Phe	Phe	Gly	Asn	Gly
1				5					10					15	
Ala	Phe	Tyr	Val	Arg	Glu	Ala	Leu	Arg	Leu	Thr	Pro	His	Ala	Gln	Asn
			20					25					30		
Ile	Val	Leu	Val	Gly	Ile	Cys	Pro	Ser	Leu	Tyr	Pro	Glu	His	Pro	Arg
		35				40						45			
Ser	Phe	Tyr	Tyr	Arg	Val	Ser	Gly	Asp	Ile	Gly	Ser	Arg	Phe	Asp	Asp
		50				55					60				
Arg	Gly	Phe	Val	Asn	Ser	Gly	Val	Glu	Thr	Leu	Pro	Tyr	Ser	Ser	Gly
65					70					75				80	
Ser	Phe	Gly	Ile	Phe	Trp	Ile	Ser	Phe	Thr	Asp	Pro	Thr	Phe	Asn	Phe
				85					90					95	
Ala	Ile	Val	Asn	Thr	Phe	Met	Arg	Thr	Ala	Gly	Ile	Asn	Glu	Val	Ser
			100					105					110		
Arg	Pro	Met	Thr	Gln	Asp	Thr	Glu	Thr	Ser	Leu	Ile	Glu	Met	Arg	Asp
		115					120					125			
Leu	Ser	Glu	Gln	Gln	Glu	Ala	Asn	Asn	Thr	Asp	Ser	Leu	Glu	Gln	Glu
		130				135					140				
Glu	Ser	Leu	Met	Gly	Ile	Val	Gly	His	Thr	Val	Gly	Gly	Val	Ser	Met
145					150					155				160	
Thr	Val	Thr	Ser	Ser	Pro	Asn	Ile	Phe	Tyr	Arg	Ile	Gln	Thr	Leu	Leu
				165					170					175	
Gly	Leu	Pro	Glu	Thr	Leu	Ala	Glu	Ala	Glu	Glu	Asn	Pro	Thr	Phe	Pro
			180				185						190		
Asn	Ser	Thr	Ile	Asp	Ser	Leu	Ala	Glu	Ile	Met	Met	Asn	Leu	Val	Arg
			195				200						205		

Ile Ser Asp Ala Val Ser Ile Phe Trp Ile Phe Pro Ile Val Asp Thr
 210 215 220
 Thr Tyr Asn Gly Val Leu Leu Ala Val Cys Ile Gly Phe Phe Gly Ile
 225 230 235 240
 Asn Gly Ile Cys Ser Thr Phe Leu Met Leu Thr Asn Pro Arg Ser Arg
 245 250 255
 Arg Asp Arg Trp Arg Asn Leu Arg Ile Met Val Leu Cys Tyr Arg Ser
 260 265 270
 Leu Gly Ser Gly Met Asn Leu Phe Asp Leu Ser Asn Asn Val Arg Met
 275 280 285
 Ala Ala Arg Arg His Val Thr Ser Cys Thr Val Ala Leu Tyr Ala Met
 290 295 300
 Val Thr Leu Phe Gly Trp Thr Val Ala Ile Gln Asp Ala Leu Gln Tyr
 305 310 315 320
 Gly Phe Pro Ser Val Arg Asp Ala Phe Tyr Arg Tyr Cys Leu Arg His
 325 330 335
 Arg Tyr Cys Leu Thr Gln Arg Asn Glu Asp Ser Leu Gln Thr Thr Gly
 340 345 350
 Thr Arg Phe Gln Val Thr Arg Thr His Leu Glu Asp Gln Gln Met Val
 355 360 365
 Ala Ser Ile Leu Asn Leu Ser Val Phe Gly Leu Phe Phe Gly Phe Val
 370 375 380
 Gly Leu Met Thr Thr Phe Gly Gly Leu Glu Ile Ser Pro Ser Cys Arg
 385 390 395 400
 Trp Asp Ala Ala Asn Asn Arg Thr Val Gly Ile Phe
 405 410

<210> 885
 <211> 444
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0883

<400> 885
 Leu Tyr Glu Leu Phe Ile Lys Ser Gly Ile Phe Ile Val Met Thr Trp
 1 5 10 15
 Leu Ser Gly Leu Tyr Phe Ile Cys Ile Ala Ser Leu Ile Phe Cys Ala
 20 25 30
 Ile Gly Val Ile Leu Ala Gly Val Ile Leu Leu Ser Arg Lys Leu Phe
 35 40 45
 Ile Lys Val His Pro Cys Lys Leu Lys Ile Asn Asp Asn Glu Glu Leu
 50 55 60
 Thr Lys Thr Val Glu Ser Gly Gln Thr Leu Leu Val Ser Leu Leu Ser
 65 70 75 80
 Ser Gly Ile Pro Ile Pro Ser Pro Cys Gly Gly Lys Ala Thr Cys Lys
 85 90 95
 Gln Cys Lys Val Arg Val Val Lys Asn Ala Asp Glu Pro Leu Glu Thr
 100 105 110
 Asp Arg Ser Thr Phe Ser Lys Arg Gln Leu Glu Glu Gly Trp Arg Leu
 115 120 125
 Ser Cys Gln Cys Lys Val Gln His Asp Met Ser Leu Glu Ile Glu Glu
 130 135 140
 Arg Tyr Leu Asn Ala Ser Ser Trp Glu Gly Thr Val Ile Ser Asn Asp
 145 150 155 160
 Asn Val Ala Thr Phe Ile Lys Glu Leu Val Val Ala Val Asp Pro Asn
 165 170 175
 Lys Pro Ile Pro Phe Lys Pro Gly Gly Tyr Leu Gln Ile Thr Val Pro
 180 185 190

Ser Tyr Lys Thr Asn Ser Ser Asp Trp Lys Gln Thr Met Ala Pro Glu
 195 200 205
 Tyr Tyr Ser Asp Trp Glu His Phe His Leu Phe Asp Gln Val Ile Asp
 210 215 220
 Asn Ser Gln Leu Pro Ala Asp Ser Ala Asn Lys Ala Tyr Ser Leu Ala
 225 230 235 240
 Ser Tyr Pro Ala Glu Leu Pro Thr Ile Lys Phe Asn Ile Arg Ile Ala
 245 250 255
 Thr Pro Pro Phe Ile Asn Gly Lys Pro Asn Ser Glu Ile Pro Trp Gly
 260 265 270
 Val Cys Ser Ser Tyr Val Phe Ser Leu Lys Pro Gly Asp Lys Ile Thr
 275 280 285
 Val Ser Gly Pro Tyr Gly Glu Ser Phe Met Lys Asp Asp Asp Arg Pro
 290 295 300
 Leu Ile Phe Leu Ile Gly Gly Ala Gly Ser Ser Phe Gly Arg Ser His
 305 310 315 320
 Ile Leu Asp Leu Leu Asn Lys His Ser Lys Arg Glu Ile Asp Leu
 325 330 335
 Trp Tyr Gly Ala Arg Ser Leu Lys Glu Asn Ile Tyr Gln Glu Glu Tyr
 340 345 350
 Glu Asn Leu Glu Arg Gln Phe Pro Asn Phe His Tyr His Leu Val Leu
 355 360 365
 Ser Glu Pro Leu Pro Glu Asp Ile Ala Ala Gly Trp Asp Lys Asp Asp
 370 375 380
 Pro Thr Lys Thr Asn Phe Leu Phe Arg Ala Phe Asn Leu Gly Gln Leu
 385 390 395 400
 Ser Arg Leu Asp Asn Pro Glu Asp Tyr Leu Tyr Tyr Val Cys Gly Pro
 405 410 415
 Pro Leu His Asn Ser Ser Ile Leu Lys Leu Leu Gly Asp Tyr Gly Val
 420 425 430
 Glu Arg Ser Ser Ile Ile Leu Asp Asp Phe Gly Ser
 435 440

<210> 886
 <211> 120
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0884

<400> 886
 Gly Asp Cys Met Leu Ser Arg Ile Val Thr Cys Phe Leu Phe Leu Leu
 1 5 10 15
 Ser Ser Leu Pro Leu Phe Ala Glu Glu Ala Ala Gln Ser Lys Asn
 20 25 30
 Thr Phe Val Gln Pro Ala Val Met Leu Ala Ile Ala Ile Leu Phe Phe
 35 40 45
 Tyr Phe Ile Leu Trp Arg Pro Glu Gln Lys Arg Arg Lys Ala Met Glu
 50 55 60
 Lys Arg Lys Asn Asp Leu Ala Lys Gly Asp Lys Val Thr Ala Met Gly
 65 70 75 80
 Ile Ile Gly Thr Val Asp Asp Ile Arg Glu His Thr Val Ile Leu Asn
 85 90 95
 Ile Ala Ser Gly Lys Val Glu Val Leu Lys Gly Ala Ile Ser Glu Ile
 100 105 110
 Leu Lys Pro Asn Asp Asn Lys Ser
 115 120

<210> 887
 <211> 406
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0885

<400> 887
 Ala Ser Ile Leu Thr Met Ser Thr Met Gln Asn Cys Pro His Phe Gly
 1 5 10 15
 Val Cys Gly Gly Cys Ser Phe Pro Gln Ser Asn Tyr Ser Asp Ser Leu
 20 25 30
 Lys Lys Lys Glu Glu Leu Leu His Gln Leu Phe Ala Pro Leu Val Pro
 35 40 45
 Ser Asp Met Ile Ala Pro Ile Ile Pro Cys Ser Pro Ser Leu Arg Gly
 50 55 60
 Arg Asn Lys Met Glu Phe Ser Phe Phe Gln Thr Tyr Glu Gly Glu Lys
 65 70 75 80
 Ser Leu Gly Phe Ile Ser Ser Thr Lys Pro Lys Lys Gly Ile Pro Val
 85 90 95
 Thr Thr Cys Leu Leu Ile His Glu Gln Thr Met Asp Ile Leu Lys Leu
 100 105 110
 Thr Arg Glu Trp Trp Asp Lys His Pro Glu Leu Met Ala Tyr Phe Pro
 115 120 125
 Pro Lys Asn Lys Gly Ser Leu Cys Thr Leu Thr Val Arg Thr Gly Ser
 130 135 140
 Pro Gln Gln Asn Phe Met Val Ile Leu Thr Thr Ser Gly Thr Pro Glu
 145 150 155 160
 Tyr Arg Val Asn Glu Ala Cys Ile Asp Glu Trp Lys Glu Ile Leu Leu
 165 170 175
 Ser Ser Ser Leu Asn Ile Ala Ser Ile Tyr Trp Glu Glu Lys Val Ala
 180 185 190
 Ala Arg Gly Ile Ser Thr Tyr Tyr Glu Thr Lys Leu Leu Tyr Gly Ala
 195 200 205
 Pro Ser Ile Gln Gln Lys Leu Ser Leu Pro Ser Asp Gly Asn Ser Ala
 210 215 220
 Ser Phe Ser Leu Arg Pro Arg Ser Phe Phe Gln Pro Gln Ile Thr Gln
 225 230 235 240
 Ala Ala Lys Ile Ile Glu Thr Ala Lys Glu Phe Ile Asn Pro Glu Gly
 245 250 255
 Ser Glu Thr Leu Leu Asp Leu Tyr Cys Gly Ala Gly Thr Ile Gly Ile
 260 265 270
 Met Leu Ser Pro Tyr Val Lys Asn Val Ile Gly Val Glu Ile Ile Pro
 275 280 285
 Asp Ala Val Ala Ser Ala Gln Glu Asn Ile Lys Ala Asn Asn Lys Glu
 290 295 300
 Asp Cys Val Glu Val Tyr Leu Glu Asp Ala Lys Ala Phe Cys Lys Arg
 305 310 315 320
 Asn Glu Asn Cys Lys Ala Pro Asp Val Ile Ile Ile Asp Pro Pro Arg
 325 330 335
 Cys Gly Met Gln Ser Lys Val Leu Lys Tyr Ile Leu Arg Ile Gly Ser
 340 345 350
 Pro Lys Ile Val Tyr Ile Ser Cys Asn Pro Lys Thr Gln Phe Gln Glu
 355 360 365
 Cys Ala Asp Leu Ile Ser Gly Gly Tyr Arg Ile Lys Lys Met Gln Pro
 370 375 380
 Ile Asp Gln Phe Pro Tyr Ser Thr His Leu Glu Asn Ile Ile Leu Leu
 385 390 395 400
 Glu Arg Glu Ile Asp Pro
 405

<210> 888
 <211> 127
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0886

<400> 888
 Arg Thr Leu Phe Met Ala Leu Lys Asp Thr Ala Lys Lys Met Lys Asp
 1 5 10 15
 Leu Leu Asp Ser Ile Gln His Asp Leu Ala Lys Ala Glu Lys Gly Asn
 20 25 30
 Lys Ala Ala Ala Gln Arg Val Arg Thr Asp Ser Ile Lys Leu Glu Lys
 35 40 45
 Val Ala Lys Leu Tyr Arg Lys Glu Ser Ile Lys Ala Glu Lys Ser Gly
 50 55 60
 Leu Leu Lys Arg Lys Pro Ser Thr Lys Ala Pro Ala Lys Val Lys Lys
 65 70 75 80
 Thr Ala Glu Lys Lys Ala Pro Lys Lys Ser Ser Ala Ala Ala Lys
 85 90 95
 Thr Ser Lys Ala Val Lys Ala Ser Lys Pro Ala Ser Lys Lys Thr Ala
 100 105 110
 Ala Lys Lys Val Lys Lys Pro Ser Lys Ala Arg Gly Phe Arg Lys
 115 120 125

<210> 889
 <211> 822
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0887

<400> 889
 Met Lys Lys Leu Tyr His Pro Thr Leu Phe Leu Arg Pro Leu Ile Arg
 1 5 10 15
 Leu Ser Leu Ile Phe Ala Leu Ser Leu Thr Leu Ile Ser Gly Asn Phe
 20 25 30
 Pro Gln Gln Lys Ser Phe Gly His Cys Cys Ala Asp Met His Ser Ala
 35 40 45
 Leu Ile Ser Gly Lys Asn Cys Glu Glu Leu Phe Ala Asp Phe Ile Glu
 50 55 60
 Arg Val Leu Ala Asp Arg Glu Thr Leu Thr Ala Arg Asp Trp Gly Thr
 65 70 75 80
 Val Val Val Leu Val Arg Glu Tyr Leu Leu Lys Cys Ile Arg Lys Gly
 85 90 95
 Asp Cys Asp Tyr Gly Val Lys Ile Leu Gln Lys Leu Leu Ala Leu Arg
 100 105 110
 Leu Pro Lys Asp Ala Arg Lys Asp Leu Gln Ile Leu Trp His Arg Leu
 115 120 125
 Asn Pro Glu Gln Ala Pro Leu Arg Asp Val Val Asp Gln Leu Phe Thr
 130 135 140
 Ile Gly Cys His Glu Ser Leu Gln Asp His Leu Leu Phe Glu Leu Tyr
 145 150 155 160
 Thr Val Thr Leu His Ser Gly Tyr Glu Asn Arg Lys Gln Asp Met Leu
 165 170 175
 Leu Ala Lys Glu Gln Gly Asp Tyr Lys Lys Ala Ile Glu Leu Ala Lys
 180 185 190
 Glu Leu Val Ala Ala Leu Glu Lys Gly Ser Cys Ser Pro His Pro Glu
 195 200 205

Ile Val Gln Ile Glu Lys Thr Phe Leu Gln Lys Thr Leu Leu Ala Leu
 210 215 220
 Gln Ile Lys Val Ala Gln Glu Ala Gln Glu Ser Cys Asp Ala Leu Leu
 225 230 235 240
 Thr Pro Tyr Cys Leu Ser Glu Ile Ala Tyr Thr Glu Ala Met Asp Ala
 245 250 255
 Leu Val Leu Arg Ile Ala Arg Gly Glu Val Ser Arg Thr Asn Glu Val
 260 265 270
 Asp Ser Val Leu Leu Ser His Ala Leu Gln His Leu Pro Phe Ala Arg
 275 280 285
 Glu Lys Ala Ile Pro Glu Leu Glu Val Leu Ile Asp His Gly Ala Tyr
 290 295 300
 Leu Glu Ser Thr Leu Leu Tyr Tyr Ala Tyr Phe Ser Leu Leu Glu Leu
 305 310 315 320
 Tyr His Gln Asn Lys Asp Phe Ala Ser Leu Glu Arg Leu Leu Glu Lys
 325 330 335
 Gly Asp Ala Val Phe Val Pro Glu His Pro Tyr Phe Pro Glu Tyr Gly
 340 345 350
 Phe Phe Leu Gly Ala Tyr Phe Tyr Ala Lys Gly Lys Tyr Glu Ser Ala
 355 360 365
 Glu Lys Val Phe Leu Gln Ile Ile Asp Pro Ala Val Lys Leu Gly Ala
 370 375 380
 Thr Phe Ala Arg Ala Tyr Glu Tyr Leu Gly Cys Ile Ala Tyr Val Gln
 385 390 395 400
 Asn His Tyr Glu Lys Ala Glu Glu Tyr Phe Leu Arg Ala Tyr Lys Ser
 405 410 415
 Trp Gly Arg Glu Glu Ser Gly Ile Gly Leu Phe Leu Ala Tyr Ala Val
 420 425 430
 Gln Lys Lys Lys Thr Ala Cys Glu Asp Met Leu Tyr His Pro Lys Phe
 435 440 445
 Ser Phe Thr Tyr Arg His Leu Leu Asp Ser Leu Cys Ser Leu Ser Tyr
 450 455 460
 Pro His Gly Glu Asn Lys Gly Ser Ser Ala Ile Gln Arg Val His Arg
 465 470 475 480
 Ala Val Pro Glu Leu Ser Glu Ile Tyr Ser Arg Cys Ile Tyr Asp Met
 485 490 495
 Ile Lys Tyr Arg Asn Val Thr Tyr Thr His Pro Ile Ile Glu Leu Ala
 500 505 510
 Tyr Asn Gln Val Arg Asn Leu Glu Lys Arg Asn Leu Glu Glu Ile Cys
 515 520 525
 Arg Asp Ala Gln Asp Pro Glu Tyr Asp Lys Ala Leu Ala Phe Trp Gly
 530 535 540
 Ala Leu Gln Ser Gly Ala Ser Val Pro Arg Ser Leu Ile Glu Ser Ser
 545 550 555 560
 Asp Val Asp Glu Ala Arg Ile Thr Ile Arg Cys Tyr Glu Ala Leu Tyr
 565 570 575
 Phe His Asn Pro Asp Ala Ile Ala Met Leu Pro Gln Ala Phe Ser Glu
 580 585 590
 Glu Cys Asn Ser Trp Gln Thr Ala Leu Arg Leu Val Trp Thr Leu Val
 595 600 605
 Arg Pro Lys Gly Ala Pro Asn His Ala Lys Tyr Trp Asp His Leu Val
 610 615 620
 Leu Arg Pro His Gly Asp Ser Leu Tyr Phe Phe Gly Tyr Asp Leu Gln
 625 630 635 640
 Glu Tyr Leu Ile Gly Lys Glu Asp Ala Leu Lys His Leu Ser Val Phe
 645 650 655
 Ala Glu Leu Phe Pro Lys Ser Ser Leu Leu Ser Leu Val Tyr Tyr Leu
 660 665 670
 Gln Gly Tyr Ser Glu Ser Ser Ala Leu Arg Lys Val Gly Trp Phe Val
 675 680 685

Lys Ala Leu Glu Glu Phe Thr Glu Ile Ser Trp Ser Gly Glu His Met
 690 695 700
 Lys Thr Trp Ala Tyr Ile Tyr Tyr Met Val Lys Leu Asp Leu Ala Asp
 705 710 715 720
 Thr Tyr Ile Ser Leu Gly Asn Phe Ser Gln Ala Val His Ile Leu Glu
 725 730 735
 Glu Val Lys Glu Asp Trp Gln Val Ala Ser His Pro Lys Leu His Phe
 740 745 750
 Leu Lys Gly Glu Asp Cys Tyr Leu Ala Met Glu Leu Arg Trp Val Glu
 755 760 765
 Gly Leu Ala Tyr Ala Tyr Phe Gln Leu His Glu Thr Ala His Leu Ser
 770 775 780
 Asn His Leu Leu Glu His Val Glu Lys Asn Leu Ile Ser Pro Arg Ser
 785 790 795 800
 Tyr Arg Asp Tyr Tyr Gly Glu Ser Leu Gln Arg Thr Leu Gly Leu Cys
 805 810 815
 Gln Arg Phe Leu Gly Val
 820

<210> 890
 <211> 441
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0888

<400> 890
 Ala Glu Arg Arg Phe Cys Val Lys Arg Ala Ile Ile Ile Gly Ala Gly
 1 5 10 15
 Ile Ser Gly Leu Ala Ala Gly Trp Trp Leu His Lys Lys Phe Pro Gln
 20 25 30
 Ala Glu Ile Leu Val Leu Asp Lys Glu Ala Tyr Ala Gly Gly Phe Val
 35 40 45
 Arg Thr Glu Ser Pro Gln Gly Phe Ser Phe Asp Leu Gly Pro Lys Gly
 50 55 60
 Phe Leu Thr Arg Gly Asp Gly Glu Tyr Thr Leu Lys Leu Ile His Glu
 65 70 75 80
 Leu Gly Leu Gln Asn Ser Leu Ile Phe Ser Asp Arg Ala Ala Lys Asn
 85 90 95
 Arg Phe Val Tyr Tyr Arg Gly Lys Ala His Lys Ile Ser Thr Trp Thr
 100 105 110
 Leu Leu Arg Lys Gly Leu Leu Pro Ser Leu Ile Lys Asp Phe Arg Ala
 115 120 125
 Pro Cys Tyr Thr Gln Asp Ser Ser Val Gln Asp Phe Leu Lys Arg His
 130 135 140
 Ser Ser Gln Asn Phe Thr Ser Tyr Ile Leu Asp Pro Leu Ile Thr Ala
 145 150 155 160
 Ile Arg Ala Gly His Ser Ser Ile Leu Ser Thr His Met Ala Phe Pro
 165 170 175
 Glu Leu Ala Lys Arg Glu Ala Ser Ser Gly Ser Leu Leu Arg Ser Tyr
 180 185 190
 Leu Lys Asn Arg Ser Pro Lys Lys Ser Lys Thr Asp Arg Tyr Leu Ala
 195 200 205
 Ser Leu Ser Pro Ser Met Gly Thr Leu Ile Thr Thr Ile Gln Glu Lys
 210 215 220
 Leu Pro Ala Thr Trp Lys Phe Ser Thr Ser Val Thr His Ile Asp Cys
 225 230 235 240
 Ser Pro Lys Glu Ala Cys Val Thr Thr Pro Ser Glu Thr Phe Phe Ala
 245 250 255

Asp Met Val Ile Tyr Thr Gly Pro Leu Gln Gln Leu Pro Val Leu Leu
 260 265 270
 Pro Asn Tyr Gly Ile Glu Asn Leu Ser Lys Arg Val Leu Pro Trp Asn
 275 280 285
 Leu Ser Ser Ile Ser Leu Gly Trp His His Ala Asn Phe Ser Leu Pro
 290 295 300
 Lys Gly Tyr Gly Met Leu Phe Ala Asp Glu Leu Pro Leu Leu Gly Ile
 305 310 315 320
 Val Trp Asn Ser Gln Ile Phe Pro Gln Ala Thr Pro Gly Lys Thr Val
 325 330 335
 Leu Ser Leu Leu Ile Glu Gly Lys Trp Arg Glu Ser Glu Ala His Ala
 340 345 350
 Phe Ala Ile Ala Ala Leu Ser Glu Tyr Leu Asn Ile Asn Gln Lys Pro
 355 360 365
 Asp Ala Phe Ala Leu Phe Ser Ser Gln Asp Gly Met Pro Gln His Ala
 370 375 380
 Val Gly Phe Leu Glu Arg Lys Glu Arg Ile Leu Pro His Leu Pro Gly
 385 390 395 400
 Asn Leu Lys Ile Val Gly Gln Asn Ile Ala Gly Pro Gly Leu Asn Arg
 405 410 415
 Cys Ile Ala Ser Ala Tyr His Ala Ile Cys Asp Leu His Thr Glu Glu
 420 425 430
 Thr Leu Ala Gln Pro Gln Ser Ser Leu
 435 440

<210> 891
 <211> 460
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0889

<400> 891
 Phe Leu Met Phe Asn Val Asn Phe Lys Phe Leu Glu Gly Leu His Gln
 1 5 10 15
 Pro Ala Pro Arg Tyr Thr Ser Tyr Pro Thr Ala Leu Glu Trp Glu Pro
 20 25 30
 Ser Asp Ala Ala Pro Ala Leu Leu Ala Phe Gln Arg Ile Arg Glu Asn
 35 40 45
 Pro Gln Pro Leu Ser Leu Tyr Phe His Ile Pro Phe Cys Gln Ser Met
 50 55 60
 Cys Leu Tyr Cys Gly Cys Ser Val Val Leu Asn Arg Arg Glu Asp Ile
 65 70 75 80
 Val Glu Ala Tyr Ile Asn Thr Leu Ile Gln Glu Met Lys Leu Val Val
 85 90 95
 Glu Thr Ile Gly Phe Arg Pro Gln Val Ser Arg Ile His Phe Gly Gly
 100 105 110
 Gly Thr Pro Ser Arg Leu Ser Arg Glu Leu Phe Thr Leu Leu Phe Asp
 115 120 125
 His Ile His Lys Leu Phe Asp Leu Ser His Ala Glu Glu Ile Ala Ile
 130 135 140
 Glu Val Asp Pro Arg Ser Leu Arg Asn Asp Met Glu Lys Ala Asp Phe
 145 150 155 160
 Phe Gln Asn Val Gly Phe Asn Arg Val Ser Leu Gly Val Gln Asp Thr
 165 170 175
 Gln Ala Asp Val Gln Glu Ala Val Arg Arg Arg Gln Ser His Glu Glu
 180 185 190
 Ser Leu Lys Ala Tyr Glu Lys Phe Lys Glu Leu Ala Phe Gln Ser Ile
 195 200 205

Asn Ile Asp Leu Ile Tyr Gly Leu Pro Lys Gln Thr Lys Glu Ser Phe
 210 215 220
 Ser Lys Thr Ile Gln Asp Ile Leu Ala Met Tyr Pro Asp Arg Leu Ala
 225 230 235 240
 Leu Phe Ser Phe Ala Ser Val Pro Trp Ile Lys Pro His Gln Lys Ala
 245 250 255
 Met Lys Ala Ser Asp Met Pro Ser Met Glu Glu Lys Phe Ala Ile Tyr
 260 265 270
 Ser Gln Ser Arg His Leu Leu Thr Lys Ala Gly Tyr Gln Ala Ile Gly
 275 280 285
 Met Asp His Phe Ser Leu Pro His Asp Pro Leu Thr Leu Ala Phe Lys
 290 295 300
 Asn Lys Thr Leu Ile Arg Asn Phe Gln Gly Tyr Ser Leu Pro Pro Glu
 305 310 315 320
 Glu Asp Leu Leu Gly Leu Gly Met Thr Ser Thr Ser Phe Ile Arg Gly
 325 330 335
 Ile Tyr Leu Gln Asn Ala Lys Thr Leu Glu Glu Tyr His Asn Thr Val
 340 345 350
 Leu Arg Gly Thr Phe Ala Thr Val Lys Ser Lys Ile Leu Thr Glu Asp
 355 360 365
 Asp Arg Ile Arg Lys Trp Ala Ile His Lys Leu Met Cys Thr Phe Thr
 370 375 380
 Ile Asn Lys Glu Glu Phe Phe Asn Leu Phe Gly Tyr Glu Phe Asp Thr
 385 390 395 400
 Tyr Phe Ile Glu Ser Arg Asp Arg Leu Ile Ser Met Glu Thr Thr Gly
 405 410 415
 Leu Ile His Asn Ser Pro Gly Ser Leu Lys Val Thr Pro Leu Gly Glu
 420 425 430
 Leu Phe Val Arg Val Ile Ala Thr Ala Phe Asp His Tyr Phe Leu Asn
 435 440 445
 Lys Val Ser Lys Lys Glu Cys Phe Ser Ala Ser Ile
 450 455 460

<210> 892
 <211> 337
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0890

<400> 892
 Ser Thr Leu His Asn Trp Asp Ser Met Ser Ala Phe Phe Asp Leu Leu
 1 5 10 15
 Lys Ser Gln Thr Ala Ser His Pro Pro Ile Trp Leu Leu Arg Gln Val
 20 25 30
 Gly Arg Tyr Met Pro Pro Tyr Gln Glu Leu Lys Gly Ser Gln Ser Leu
 35 40 45
 Lys Thr Phe Phe His Asn Thr Glu Ala Ile Val Glu Ala Thr Leu Leu
 50 55 60
 Gly Pro Ser Leu Leu His Val Asp Ala Ala Ile Leu Phe Ala Asp Ile
 65 70 75 80
 Leu Ser Ile Leu Asp Gly Phe Ala Val Thr Tyr Asp Phe Ala Pro Gly
 85 90 95
 Pro Arg Ile Gln Phe Ser Pro Glu Gln Pro Phe Thr Phe Thr Ser Asp
 100 105 110
 Pro Gln Thr Ile Phe Ser Tyr Leu Leu Asp Ala Ile Arg Thr Leu Lys
 115 120 125
 Gln Lys Leu Pro Val Pro Leu Ile Val Phe Ala Ala Ser Pro Phe Thr
 130 135 140

Leu Ala Cys Tyr Leu Ile Asp Gly Gly Ala Ser Lys Asp Phe Ser Lys
 145 150 155 160
 Thr Met Ser Phe Leu Tyr Val Tyr Pro Glu Lys Phe Asp Gln Leu Ile
 165 170 175
 Ser Thr Ile Ile Glu Gly Thr Ala Ile Tyr Leu Lys Thr Gln Met Asp
 180 185 190
 Ala Gly Ala Ala Ala Val Gln Leu Phe Glu Ser Ser Ser Leu Arg Leu
 195 200 205
 Pro Ser Ala Leu Phe Thr Arg Tyr Val Thr Glu Pro Asn Arg Arg Leu
 210 215 220
 Ile Ala Lys Leu Lys Glu Gln Ala Ile Pro Val Ser Leu Phe Cys Arg
 225 230 235 240
 Cys Phe Glu Glu Asn Phe Tyr Thr Leu Gln Ala Thr Gln Ala Asp Thr
 245 250 255
 Leu His Pro Asp Tyr His Val Asp Leu His Arg Ile Gln Lys Asn Leu
 260 265 270
 Met Leu Ser Leu Gln Gly Asn Leu Asp Pro Ala Ile Phe Leu Leu Pro
 275 280 285
 Gln Glu Lys Leu Leu His Tyr Val Glu Ala Phe Leu Val Pro Leu Arg
 290 295 300
 Thr Tyr Pro Asn Phe Ile Phe Asn Ser Gly His Gly Ile Leu Pro Glu
 305 310 315 320
 Thr Pro Leu Glu Asn Val Gln Leu Val Val Ser Tyr Val Gln Arg Gln
 325 330 335
 Leu

<210> 893
 <211> 1087
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0891

<400> 893
 Asn Phe Met Ala Met Asp Phe Asn Pro Val Asn Leu Asp Phe Ser Ile
 1 5 10 15
 Ser Lys Glu Phe Lys Glu Glu Thr Leu Pro Leu Leu Leu Glu Asn Ile
 20 25 30
 His Pro Gly Ala Thr Ala Phe Leu Ala Ala Lys Met Phe His Asp Cys
 35 40 45
 Arg Ala Ser Val Ile Met Ile Thr Thr Pro Ala Arg Leu Asp Asp Leu
 50 55 60
 Phe Glu Asn Leu Arg Thr Phe Leu Asp Gln Ala Pro Val Glu Phe Pro
 65 70 75 80
 Ser Ser Glu Ile Asp Leu Ser Pro Lys Leu Val Asn Ile Asp Ala Val
 85 90 95
 Gly Lys Arg Asp His Leu Leu Tyr Ser Leu Asn Gln His Arg Ala Pro
 100 105 110
 Ile Phe Cys Val Thr Thr Leu Lys Ala Leu Leu Glu Lys Thr Arg Ser
 115 120 125
 Pro Gln Ala Thr Ser Gln Gln His Leu Asp Leu Ala Val Gly Asp Val
 130 135 140
 Leu Asp Pro Glu Ala Thr Thr Glu Leu Cys Lys Ser Leu Gly Tyr Ser
 145 150 155 160
 Gln Val Met Leu Thr Ser Glu Lys Gly Glu Phe Ser Cys Arg Gly Gly
 165 170 175
 Ile Val Asp Ile Phe Pro Leu Ser Ser Pro Glu Pro Phe Arg Ile Glu
 180 185 190

Phe Trp Gly Glu Lys Ile Ile Ser Ile Arg Ser Tyr Asn Pro Ser Asp
195 200 205
Gln Leu Ser Thr Gly Lys Val Ser Lys Ile Ser Ile Ser Pro Ala Tyr
210 215 220
Thr Glu Glu Ala Ser Gly Gly Asn Tyr Ser His Ser Leu Leu Asp Tyr
225 230 235 240
Phe Ser Thr Pro Pro Leu Tyr Leu Phe Asp Asn Leu Glu Ile Leu Glu
245 250 255
Asp Asp Phe Ala Asp Ile Ser Gly Thr Leu Ser Ser Leu Pro Asp Arg
260 265 270
Phe Phe Ser Ile Gly Thr Leu Tyr Asp Arg Ile Ser Thr Ser Asn Gln
275 280 285
Val Tyr Phe Ser Glu Thr Pro Phe Pro Asn Val Lys Asn Leu Lys Glu
290 295 300
Asn Arg Val Ile Ile Glu Ala Phe His Arg Asn Met Glu Ala Ser Arg
305 310 315 320
Gln Ala Ile Pro Ile Leu Tyr Pro Glu Gln Ile Ile Gln Asn Asp Glu
325 330 335
Asn Pro Leu Leu Ala Phe Leu Gln His Leu Gln Glu Tyr Met Pro Pro
340 345 350
His Gly Lys Pro Leu Lys Leu Ala Ile Tyr Ser Thr Lys Thr Lys Ser
355 360 365
Leu Lys Glu Ala Arg Ala Leu Ala Glu Thr Val Ala Arg Gly Asp Val
370 375 380
Glu Ile Tyr Glu Lys Thr Gly Asn Leu Thr Ser Ser Phe Ala Leu Val
385 390 395 400
Asn Glu Ala Phe Ala Ala Ile Ser Leu Ser Glu Phe Ala Ser Thr Lys
405 410 415
Val Leu Arg Arg Gln Lys Gln Arg Thr His Phe Ser Val Thr Thr Glu
420 425 430
Glu Val Phe Val Pro Ile Pro Gly Glu Thr Val Val His Ile His Asn
435 440 445
Gly Ile Gly Lys Phe Leu Gly Ile Glu Lys Lys Pro Asn His Leu Asn
450 455 460
Ile Glu Thr Asp Tyr Leu Val Leu Glu Tyr Ala Asp Lys Ala Arg Leu
465 470 475 480
Tyr Val Pro Ser Asn Gln Ala Tyr Leu Ile Ser Arg Tyr Val Gly Thr
485 490 495
Ser Asp Lys Ala Ala Asp Leu His His Leu Asn Ser Ser Lys Trp Lys
500 505 510
Arg Ser Arg Asp Leu Thr Glu Lys Ser Leu Ile Val Tyr Ala Glu Lys
515 520 525
Leu Leu Gln Leu Glu Ala Gln Arg Ser Thr Thr Pro Ala Phe Val Tyr
530 535 540
Pro Pro His Gly Glu Ser Val Ile Lys Phe Ala Glu Thr Phe Pro Tyr
545 550 555 560
Glu Glu Thr Pro Asp Gln Leu Lys Thr Ile Asp Gln Ile Tyr Asn Asp
565 570 575
Met Met Ser Pro Lys Leu Met Asp Arg Leu Ile Cys Gly Asp Ala Gly
580 585 590
Phe Gly Lys Thr Glu Val Ile Met Arg Ala Ala Val Lys Ala Val Cys
595 600 605
Asp Gly His Arg Gln Val Ile Val Met Val Pro Thr Thr Ile Leu Ala
610 615 620
Thr Gln His Tyr Glu Thr Phe Lys Glu Arg Met Ala Gly Leu Pro Ile
625 630 635 640
Glu Ile Ala Val Leu Ser Arg Phe Ser Gln Ala Lys Val Gln Lys Leu
645 650 655
Ile Cys Glu Gln Val Ala Ser Gly Gln Ile Asp Ile Ile Ile Gly Thr
660 665 670

His Lys Leu Ile Asn Lys Ser Leu Glu Phe Lys Asn Pro Gly Leu Leu
 675 680 685
 Ile Ile Asp Glu Glu Gln Arg Phe Gly Val Lys Val Lys Asp Asn Leu
 690 695 700
 Lys Glu Arg Tyr Pro Met Ile Asp Cys Leu Thr Val Ser Ala Thr Pro
 705 710 715 720
 Ile Pro Arg Thr Leu His Met Ser Leu Ser Gly Ala Arg Asp Leu Ser
 725 730 735
 Val Ile Ala Met Pro Pro Leu Asp Arg Leu Pro Val Ser Thr Phe Val
 740 745 750
 Met Glu His Asn Thr Glu Thr Leu Thr Ala Ala Leu Arg His Glu Leu
 755 760 765
 Leu Arg Gly Gly Gln Ala Tyr Val Ile His Asn Arg Ile Glu Ser Ile
 770 775 780
 Tyr Thr Leu Ala Glu Thr Ile Arg Asn Leu Ile Pro Glu Ala Arg Ile
 785 790 795 800
 Gly Val Ala His Gly Gln Met Gly Ala Glu Asp Leu Ser Asn Ile Phe
 805 810 815
 Thr Lys Phe Lys Asn Gln Lys Thr Asp Ile Leu Val Ala Thr Ala Leu
 820 825 830
 Ile Glu Asn Gly Ile Asp Ile Pro Asn Ala Asn Thr Ile Leu Ile Asp
 835 840 845
 His Ala Asp Lys Phe Gly Met Ala Asp Leu Tyr Gln Met Lys Gly Arg
 850 855 860
 Val Gly Arg Trp Asn Lys Lys Ala Tyr Cys Tyr Phe Leu Val Pro His
 865 870 875 880
 Leu Asp Arg Leu Ser Gly Pro Ala Ala Lys Arg Leu Ala Ala Leu Asn
 885 890 895
 Lys Gln Glu Tyr Gly Gly Gly Met Lys Ile Ala Leu His Asp Leu Glu
 900 905 910
 Ile Arg Gly Ala Gly Asn Ile Leu Gly Thr Asp Gln Ser Gly His Ile
 915 920 925
 Gly Thr Ile Gly Phe Asn Leu Tyr Cys Lys Leu Leu Lys Lys Ala Val
 930 935 940
 Ser Ala Leu Lys Lys His Thr Ser Pro Leu Leu Phe Asn Asp Asp Val
 945 950 955 960
 Lys Ile Glu Phe Pro Tyr Asn Ser Arg Ile Pro Asp Thr Tyr Ile Glu
 965 970 975
 Thr Gly Ser Met Arg Ile Glu Phe Tyr Gln Lys Ile Gly Asn Ala Glu
 980 985 990
 Ser Ser Glu Glu Leu Thr Ala Ile Gln Glu Glu Met Arg Asp Arg Phe
 995 1000 1005
 Gly Pro Leu Pro Gln Glu Ile Cys Trp Leu Phe Ala Leu Ala Glu Ile
 1010 1015 1020
 Arg Leu Phe Ala Leu Gln His Gly Ile Ser Ser Ile Lys Gly Thr Ala
 1025 1030 1035 1040
 Asn Ala Leu Tyr Val Gln Lys Cys Leu Ser Lys Ser Glu Gln Thr Lys
 1045 1050 1055
 Lys Thr Leu Pro Tyr Ala Leu Ser Pro Thr Pro Glu Leu Leu Val Lys
 1060 1065 1070
 Glu Val Ile Glu Ser Ile Glu Arg Gly Phe Leu Ile Asn Ala Ser
 1075 1080 1085

<210> 894
 <211> 876
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0892

<400> 894

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Phe	Tyr	Ala	Asn	Arg	His	His	Thr	Ile	Leu	Pro	Ser	Ser	Pro	Val	Phe
			20					25					30		
Pro	His	Asn	Asp	Pro	Ser	Ile	Leu	Phe	Thr	Asn	Ala	Gly	Met	Asn	Gln
		35					40					45			
Phe	Lys	Asp	Ile	Phe	Leu	Asn	Lys	Glu	Lys	Val	Ser	Tyr	Ser	Arg	Ala
	50					55				60					
Thr	Thr	Ser	Gln	Lys	Cys	Ile	Arg	Ala	Gly	Gly	Lys	His	Asn	Asp	Leu
65					70					75				80	
Asp	Asn	Val	Gly	His	Thr	Ser	Arg	His	Leu	Thr	Phe	Phe	Glu	Met	Leu
				85				90						95	
Gly	Asn	Phe	Ser	Phe	Gly	Asp	Tyr	Phe	Lys	Ala	Glu	Ala	Ile	Ala	Phe
			100					105					110		
Ala	Trp	Glu	Val	Ser	Leu	Ser	Val	Phe	Asn	Phe	Asn	Pro	Glu	Gly	Ile
		115					120					125			
Tyr	Ala	Thr	Val	His	Glu	Lys	Asp	Asp	Glu	Ala	Phe	Ala	Leu	Trp	Glu
	130					135						140			
Ala	Tyr	Leu	Pro	Thr	Asp	Arg	Ile	Phe	Arg	Leu	Thr	Asp	Lys	Asp	Asn
145					150					155				160	
Phe	Trp	Ser	Met	Ala	Asn	Thr	Gly	Pro	Cys	Gly	Tyr	Cys	Ser	Glu	Leu
				165				170						175	
Leu	Phe	Asp	Arg	Gly	Pro	Ser	Phe	Gly	Asn	Ala	Ser	Ser	Pro	Leu	Asp
		180						185					190		
Asp	Thr	Asp	Gly	Glu	Arg	Phe	Leu	Glu	Tyr	Trp	Asn	Leu	Val	Phe	Met
		195					200					205			
Glu	Phe	Asn	Arg	Thr	Ser	Glu	Gly	Ser	Leu	Leu	Ala	Leu	Pro	Asn	Lys
		210				215					220				
His	Val	Asp	Thr	Gly	Ala	Gly	Leu	Glu	Arg	Leu	Val	Ser	Leu	Ile	Ala
225					230					235				240	
Gly	Thr	His	Thr	Val	Phe	Glu	Ala	Asp	Val	Leu	Arg	Glu	Leu	Ile	Ala
				245					250					255	
Lys	Thr	Glu	Gln	Leu	Ser	Gly	Lys	Val	Tyr	His	Pro	Asp	Asp	Ser	Gly
		260					265						270		
Ala	Ala	Phe	Arg	Val	Ile	Ala	Asp	His	Val	Arg	Ser	Leu	Ser	Phe	Ala
		275					280					285			
Ile	Ala	Asp	Gly	Leu	Leu	Pro	Gly	Asn	Thr	Glu	Arg	Gly	Tyr	Val	Leu
	290					295				300					
Arg	Lys	Ile	Leu	Arg	Arg	Ser	Val	Asn	Tyr	Gly	Arg	Arg	Leu	Gly	Phe
305					310					315				320	
Arg	Asn	Pro	Phe	Leu	Ala	Glu	Ile	Val	Pro	Ser	Leu	Ala	Asp	Ala	Met
				325					330					335	
Gly	Glu	Ala	Tyr	Pro	Glu	Leu	Lys	Asn	Ser	Leu	Ser	Gln	Ile	Gln	Lys
			340					345					350		
Val	Leu	Thr	Leu	Glu	Glu	Glu	Ser	Phe	Phe	Lys	Thr	Leu	Asp	Arg	Gly
		355					360					365			
Gly	Asn	Leu	Leu	Gln	Gln	Val	Leu	Lys	Ser	Ser	Ser	Ser	Ser	Ser	Cys
	370					375					380				
Ile	Ser	Gly	Glu	Asp	Ala	Phe	Lys	Leu	Lys	Asp	Thr	Tyr	Gly	Met	Pro
385				390						395				400	
Ile	Asp	Glu	Ile	Ser	Leu	Leu	Ala	Lys	Asp	Tyr	Asp	Tyr	Ser	Val	Asp
				405					410					415	
Met	Asp	Thr	Phe	His	Lys	Leu	Glu	Gln	Glu	Ala	Lys	Glu	Arg	Ser	Arg
			420					425					430		
Lys	Asn	Val	Val	Gln	Ser	Gln	Gly	Thr	Ser	Glu	Ser	Ile	Tyr	Asn	Glu
		435					440					445			
Leu	His	Leu	Thr	Ser	Glu	Phe	Ile	Gly	Tyr	Asp	His	Leu	Ser	Cys	Asp
	450					455				460					
Thr	Phe	Ile	Glu	Ala	Ile	Ile	Ser	Lys	Asp	His	Ile	Val	Ser	Ser	Leu
465					470					475					480

Gln Glu Lys Gln Glu Gly Ala Ile Val Leu Lys Val Ser Pro Phe Tyr
 485 490 495
 Ala Glu Lys Gly Gly Gln Val Gly Asp Ser Gly Glu Ile Phe Cys Ser
 500 505 510
 Glu Gly Thr Phe Ile Val Thr His Thr Thr Ser Pro Lys Ala Gly Leu
 515 520 525
 Ile Val His His Gly Arg Ile Ser Gln Gly Ser Leu Thr Val Glu Ala
 530 535 540
 Ala Val Thr Ala Gln Val Asn Arg Tyr Arg Arg Lys Arg Ile Ala Asn
 545 550 555 560
 Asn His Thr Ala Cys His Leu Leu His Lys Ala Leu Glu Ile Thr Leu
 565 570 575
 Gly Asp His Ile Arg Gln Ala Gly Ser Tyr Val Asp Asp Thr Lys Ile
 580 585 590
 Arg Leu Asp Phe Thr His Pro Gln Ala Ile Ser Pro Glu Asp Leu Leu
 595 600 605
 Cys Ile Glu Thr Leu Val Asn Glu Ser Ile Arg Glu Asn Glu Pro Val
 610 615 620
 Asp Ile Arg Glu Ala Leu Tyr Ser Asp Val Met Asn Ser Ser Glu Ile
 625 630 635 640
 Lys Gln Phe Phe Gly Asp Lys Tyr Ser Asp Val Val Arg Val Val Ser
 645 650 655
 Ala Gly His Ser His Glu Leu Cys Gly Gly Thr His Ala Glu Ala Thr
 660 665 670
 Gly Asp Ile Gly Phe Phe Arg Ile Thr Lys Glu His Ala Val Ala Met
 675 680 685
 Gly Ile Arg Arg Ile Glu Ala Val Thr Gly Glu Lys Ala Glu Ala Thr
 690 695 700
 Val His Gln Gln Ser Glu Val Leu Glu Glu Ile Ala Thr Leu Leu Gln
 705 710 715 720
 Val Pro Arg Asp Gln Ile Val Ser Arg Leu Thr Ala Thr Leu Asp Glu
 725 730 735
 Arg Lys Gln Gln Asp Lys Arg Leu Asn Glu Leu Glu Asn Ser Leu Ile
 740 745 750
 Gln Thr Lys Leu Asp Lys Leu Ile His Asn Cys His Gln Arg Gln Gly
 755 760 765
 Ile Thr Cys Leu Val His His Leu Ala Glu His Glu Asn His Arg Leu
 770 775 780
 Gln Gln Tyr Ala Gln Cys Leu His Gln Arg Ile Pro Glu Lys Leu Ile
 785 790 795 800
 Ser Leu Trp Thr Thr Glu Lys Asn Gly Lys Tyr Ile Val Leu Ser Arg
 805 810 815
 Val Ser Asp Asp Leu Ile Thr Gln Gly Val His Ala Gln Asp Leu Leu
 820 825 830
 Lys Ala Val Leu Thr Pro Cys Gly Gly Arg Trp Gly Gly Lys Asp Gln
 835 840 845
 Ser Ala Gln Gly Ser Ala Pro Ala Leu Pro Ala Thr Glu Val Leu Asn
 850 855 860
 Glu Thr Leu Trp Gln Trp Ile Ser Thr Gln Leu Ile
 865 870 875

<210> 895

<211> 689

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0893

<400> 895

Glu	Phe	Leu	Ala	Phe	Cys	Leu	Gly	Ile	Ser	Tyr	Ser	Cys	Cys	Phe	Tyr
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Ile	Glu	Gly	Leu	Gln	Gly	Leu	Leu	Met	Ile	Asn	Lys	Glu	Leu	Asp	Ile
			20					25					30		
Gly	Ile	Leu	Gly	Lys	Ile	Ala	Gly	Ala	Ile	Lys	Gln	Ile	Ser	Ile	Glu
			35				40					45			
Ser	Ile	Gln	Lys	Ala	Ser	Ser	Gly	His	Pro	Gly	Leu	Pro	Leu	Gly	Cys
	50					55					60				
Ala	Glu	Leu	Ala	Ala	Tyr	Leu	Tyr	Gly	Tyr	Val	Leu	Arg	Gln	Asn	Pro
65					70					75				80	
Arg	Asp	Pro	His	Trp	Ile	Asn	Arg	Asp	Arg	Phe	Val	Leu	Ser	Ala	Gly
				85					90					95	
His	Gly	Ser	Ala	Leu	Leu	Tyr	Ser	Cys	Leu	His	Leu	Ala	Gly	Phe	Asp
			100					105					110		
Val	Ser	Leu	Glu	Asp	Leu	Gln	Glu	Phe	Arg	Gln	Leu	His	Ser	Arg	Thr
		115					120					125			
Pro	Gly	His	Pro	Glu	Tyr	Gly	Glu	Thr	Val	Gly	Val	Glu	Ala	Thr	Thr
		130				135						140			
Gly	Pro	Leu	Gly	Gln	Gly	Leu	Gly	Asn	Ala	Val	Gly	Met	Ala	Leu	Ser
145					150					155				160	
Met	Lys	Met	Leu	Glu	Ser	Arg	Phe	Asn	Arg	Pro	Gly	His	Glu	Ile	Phe
				165					170					175	
Asn	Gly	Lys	Ile	Tyr	Cys	Leu	Ala	Gly	Asp	Gly	Cys	Phe	Met	Glu	Gly
			180					185					190		
Val	Ser	His	Glu	Val	Cys	Ser	Phe	Ala	Gly	Ser	Leu	Asn	Leu	Asn	Asn
		195					200					205			
Leu	Val	Val	Ile	Tyr	Asp	Tyr	Asn	Asn	Val	Val	Leu	Asp	Gly	Tyr	Leu
		210				215						220			
Asn	Glu	Ile	Ser	Val	Glu	Asp	Thr	Lys	Lys	Arg	Phe	Glu	Ala	Tyr	Gly
225					230					235				240	
Trp	Asp	Val	Tyr	Glu	Ile	Asp	Gly	Tyr	Asp	Phe	Thr	His	Ile	His	Glu
				245					250					255	
Thr	Phe	Ser	Ser	Ile	Lys	Arg	Gly	Gln	Glu	Arg	Pro	Val	Leu	Val	Ile
			260					265					270		
Ala	His	Thr	Ile	Ile	Gly	His	Gly	Ser	Pro	Lys	Glu	Gly	Thr	Asn	Lys
		275					280						285		
Ala	His	Gly	Ser	Pro	Leu	Gly	Val	Glu	Gly	Thr	His	Glu	Thr	Lys	Gln
		290				295					300				
Phe	Trp	His	Leu	Pro	Glu	Lys	Phe	Phe	Val	Pro	Pro	Ala	Val	Lys	
305					310				315					320	
Asn	Phe	Phe	Ala	His	Lys	Ile	Gln	Glu	Asp	Arg	Lys	Ala	Gln	Glu	Gln
				325					330					335	
Trp	Leu	Asp	Glu	Val	Arg	Val	Trp	Ser	Lys	Gln	Phe	Pro	Glu	Leu	His
			340					345					350		
Glu	Glu	Phe	Val	Ala	Leu	Thr	Ser	His	Lys	Leu	Pro	Lys	Asn	Leu	Glu
		355					360					365			
Ser	Leu	Val	Gln	Ser	Val	Glu	Met	Pro	Asp	Ser	Ile	Ala	Gly	Arg	Ala
		370				375					380				
Ala	Ser	Asn	Lys	Leu	Ile	Gln	Val	Leu	Val	Gln	His	Ile	Pro	Tyr	Leu
385				390						395				400	
Ile	Gly	Gly	Ser	Ala	Asp	Leu	Ser	Ser	Ser	Asp	Gly	Thr	Trp	Ile	Ala
				405					410					415	
Asn	Glu	Lys	Val	Ile	His	Thr	Tyr	Asp	Phe	Ser	Gly	Arg	Asn	Ile	Lys
			420					425					430		
Tyr	Gly	Val	Arg	Glu	Phe	Gly	Met	Ala	Thr	Ile	Met	Asn	Gly	Leu	Ala
		435					440					445			
Tyr	Ser	Gln	Val	Phe	Arg	Pro	Phe	Gly	Gly	Thr	Phe	Leu	Val	Phe	Ser
		450				455					460				
Asp	Tyr	Met	Arg	Asn	Ala	Ile	Arg	Leu	Ala	Ala	Leu	Ser	Lys	Leu	Pro
465					470					475				480	

Val Ile Tyr Gln Phe Thr His Asp Ser Ile Phe Val Gly Glu Asp Gly
 485 490 495
 Pro Thr His Gln Pro Val Glu Gln Leu Met Ser Leu Arg Ala Ile Pro
 500 505 510
 Gly Leu Tyr Val Ile Arg Pro Ala Asp Ala Asn Glu Val Arg Gly Ala
 515 520 525
 Trp Ile Ala Gly Leu Lys His Thr Gly Pro Thr Val Ile Val Leu Ser
 530 535 540
 Arg Gln Ala Leu Pro Thr Leu Pro Ala Ala His Arg Pro Phe Lys Asp
 545 550 555 560
 Gly Ile Gly Arg Gly Ala Tyr Ile Val Leu Lys Glu Ser Gly Glu Lys
 565 570 575
 Pro Asp Tyr Thr Leu Phe Ala Thr Gly Ser Glu Val Ser Leu Ala Leu
 580 585 590
 Ser Val Ala Lys Glu Leu Glu His Leu Asp Lys Gln Val Arg Val Val
 595 600 605
 Ser Phe Pro Cys Trp Glu Leu Phe Glu Ala Gln Asp Val Asp Tyr Lys
 610 615 620
 Gln Ser Ile Val Gly Gly Asp Leu Gly Ile Arg Val Ser Ile Glu Ala
 625 630 635 640
 Gly Ser Ala Leu Gly Trp Tyr Lys Tyr Ile Gly Ser Glu Gly Leu Ala
 645 650 655
 Ile Ala Met Asp Arg Phe Gly Tyr Ser Gly Ala Ser Asp Asp Val Ser
 660 665 670
 Glu Glu Cys Gly Phe Thr Thr Glu Gln Ile Leu Gln Arg Ile Leu Ser
 675 680 685
 Gln

<210> 896
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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0894

<400> 896
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 Gly Glu Arg Val Ser Lys His Thr Ser Glu Ser Arg Ile Ala Gln Asp
 20 25 30
 Met Leu Glu Arg Tyr Ser Gly Ser Ser Val Lys Gln Phe Cys Pro Tyr
 35 40 45
 Leu Leu Leu Thr Asn Phe Ser Tyr Tyr Ile Gln Thr Phe Ala Lys Leu
 50 55 60
 His Gly Val Pro Val Phe Glu Gly Ser Met Phe Ser Ala Ala His Ala
 65 70 75 80
 Pro His Leu Lys Thr Ser Ile Leu Asp Phe Lys Leu Gly Ser Pro Gly
 85 90 95
 Ala Ala Leu Thr Ile Asp Leu Cys Ser Phe Leu Pro Asp Leu Lys Ala
 100 105 110
 Ala Leu Met Leu Gly Met Cys Gly Gly Leu Arg Ser His Tyr Gln Val
 115 120 125
 Gly Asp Tyr Phe Val Pro Val Ala Ser Ile Arg Gly Glu Gly Thr Ser
 130 135 140
 Asp Ala Tyr Phe Pro Pro Glu Val Pro Ala Leu Ala Asn Phe Val Val
 145 150 155 160
 Gln Lys Ala Thr Thr Glu Val Leu Glu Asp Lys Lys Ala Asn Tyr His
 165 170 175

<220>

<223> CPn0896

<400> 898

Glu Lys Tyr Phe Phe Phe Thr Val Arg Asn Met Glu Ala Lys Lys Ile
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Lys Glu Leu Ser Lys Glu Ala Gln Leu Lys Lys Leu Arg Glu Lys
20 25 30
Ser Arg Val Leu Asp Glu Lys Asn Lys Arg Lys Ala Trp Val Ala Lys
35 40 45
Leu Val Ala Met Pro Glu Ser Ile Arg Glu Ile Glu Lys Glu Glu Arg
50 55 60
Val Glu Thr Pro Gln Leu Phe Gln Ala Ile Ala Glu Lys Ile Leu Glu
65 70 75 80
Glu Gly Val

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<211> 314

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0897

<400> 899

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Pro Arg Pro Met Gln Glu Lys Pro Arg His Val His Arg Ile Ile His
20 25 30
Ile Ser Asp Val His Phe His Val Leu Pro Val Asn Pro Val His Cys
35 40 45
Phe Asn Lys Arg Leu Lys Gly Leu Leu Arg Lys Val Phe Gly Leu Val
50 55 60
His Phe Gln Ala Thr Thr Ile Gly Gln Arg Phe Pro Lys Val Val Arg
65 70 75 80
Ser Leu Gly Ala Asp Ser Val Cys Ile Thr Gly Asp Phe Ser Leu Thr
85 90 95
Ala Met Asp Gly Glu Phe Leu Leu Ala Lys His Phe Val Glu Thr Leu
100 105 110
Ala Lys His Ser Ser Val Tyr Leu Leu Pro Gly Asn His Asp Val Tyr
115 120 125
Thr Leu Lys Ser Leu Ala Gln Gln Thr Phe Tyr Thr His Phe Pro Asn
130 135 140
Asp Gln Leu Gln Gln Asn Lys Val Ser Phe His Lys Ile Thr Asp His
145 150 155 160
Trp Trp Leu Ile Leu Leu Asp Cys Ser Cys Leu Asn Gly Trp Phe Ser
165 170 175
Ala Asn Gly Val Val His Leu Ala Gln Ile Ser Ala Ile Glu Thr Phe
180 185 190
Leu Leu Ser Leu Ser Pro Glu Glu Asn Val Ile Ile Ala Asn His Tyr
195 200 205
Pro Leu Leu Ser Ser Gln Asn Pro Ser His Asp Leu Ile Asn Asn Thr
210 215 220
His Leu Gln Asn Val Leu Lys Lys Tyr Pro Lys Val Arg Leu Tyr Leu
225 230 235 240
His Gly His Glu His Gln Ala Ala Val Tyr Asn Cys Ala Asp Thr Ser
245 250 255
Pro Ser Tyr Ile Leu Asn Ser Gly Ser Ile Ser Leu Pro Thr Asn Ser
260 265 270

Arg Phe His Val Ile Asp Leu Tyr Pro Glu Lys Tyr Gln Val His Thr
275 280 285
Met Ile Leu Lys Asn Leu Leu Asp Phe Asp Ala Pro Leu Glu Ile Ala
290 295 300
Asn Glu Ala Thr Trp Asp Cys Gln Lys Leu
305 310

<210> 900
<211> 536
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0898

<400> 900
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20 25 30
Leu Phe Ser Gly Ile Asp Lys Leu Phe Gln Ile Val Lys Gly Ser Tyr
35 40 45
Gly Pro Lys Gln Ser Leu Ser Pro Thr Ser Phe Phe Lys Glu Arg Gly
50 55 60
Phe Tyr Ala Ile Ser Gln Thr Glu Leu Ser Asn Ser Tyr Glu Asn Leu
65 70 75 80
Gly Val Asp Phe Ala Lys Ala Met Val Asn Lys Ile His Lys Glu His
85 90 95
Ser Asp Gly Ala Thr Thr Gly Leu Ile Leu Leu His Ala Ile Leu Gln
100 105 110
Glu Ser Tyr Ala Ala Leu Glu Lys Gly Ile Ser Thr His Lys Leu Ile
115 120 125
Ala Ser Leu Lys Leu Gln Gly Glu Lys Leu Gln Glu Ala Leu Gln Gln
130 135 140
Gln Ser Trp Pro Ile Lys Asp Ala Leu Lys Val Arg Asn Ile Ile Phe
145 150 155 160
Ser Ser Leu His Met Pro Thr Ile Ala Asp His Phe Tyr Asn Ala Phe
165 170 175
Ser Val Val Gly Pro Glu Gly Leu Ile Ser Ile Thr Lys Glu Arg Glu
180 185 190
Asn Asp Lys Thr Ser Met Asp Val Phe Gln Gly Phe Lys Ile Pro Ala
195 200 205
Gly Tyr Ala Ser Thr Tyr Phe Val Ser Asp Thr Ala Ser Arg Leu Thr
210 215 220
Arg Ile Ala His Pro Leu Ile Leu Ile Thr Asp Arg Lys Ile Ser Met
225 230 235 240
Ile His Ser Leu Leu Pro Leu Leu Gln Glu Ile Ser Glu Gln Asn Gln
245 250 255
His Leu Ile Ile Phe Cys Glu Asp Ile Asp Pro Asp Val Leu Ala Thr
260 265 270
Leu Val Val Asn Lys Leu Gln Gly Leu Leu Gln Val Thr Val Val Thr
275 280 285
Ile Pro Gln Leu Ser Thr Thr Asn Gln Glu Leu Ala Glu Asp Ile Ala
290 295 300
Leu Phe Thr Gly Thr His Ile Cys Pro Cys Gln Glu Ala Ser His Val
305 310 315 320
Leu Ala Pro Glu Met Val Thr Leu Gly Ser Cys Leu Ser Ile Glu Ile
325 330 335
Ser Glu Ser Gln Thr Thr Leu Ile Gly Gly Leu His Ile Pro Glu Val
340 345 350

Leu Thr Leu Lys Thr Arg Gln Leu Ala Glu Glu Ile Arg Thr Thr Ser
 355 360 365
 Cys Leu Glu Thr Lys Lys Arg Leu Ile Lys Ser Thr Asn Arg Leu Gln
 370 375 380
 Ser Ser Val Ala Ile Leu Pro Thr Asp Glu Asp Asn Glu Pro Leu Tyr
 385 390 395 400
 Thr Leu Ala Leu Lys Ile Met Glu Ser Ala Leu Ser Arg Gly Tyr Val
 405 410 415
 Pro Gly Gly Gly Val Ala Leu Phe Tyr Ala Ser Leu Thr Leu Gly Thr
 420 425 430
 Pro Lys Asp Asp Ala Asp Glu Asn Ser Ile Ala Ile Ser Leu Leu Gln
 435 440 445
 Lys Ala Cys Cys Ala Pro Leu Lys Leu Leu Ala Thr Asn Ala Asp Leu
 450 455 460
 Asp Gly Asp Ala Val Ile Ala Lys Leu Ser Ser Leu Gly Thr Thr Ser
 465 470 475 480
 Leu Gly Ile Ser Val Phe Ser Arg Glu Ile Glu Asp Leu Ile Ala Gly
 485 490 495
 Gly Ile Leu Asp Ser Leu Ala Thr Thr Ser Thr Ile Leu Ala Gln Ala
 500 505 510
 Leu Asp Thr Ala Ile Leu Val Leu Ser Ser Lys Ile Leu Ile Leu Glu
 515 520 525
 Asn Gln Tyr Glu Ile Ser Thr Leu
 530 535

<210> 901

<211> 456

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0899

<400> 901

Asn His Arg Cys Cys Arg Gln Asn Tyr Met Arg Ala Met Leu Leu Glu
 1 5 10 15
 Asp Trp Val Ser Leu Met Leu Ser Asp Val Ser Cys Pro Lys Cys Asp
 20 25 30
 Lys Lys Ile Thr Gly Phe Ala Ile Asp Ser Gln Gln Val Gln Pro Gly
 35 40 45
 Asp Leu Phe Phe Ala Leu Pro Gly Asn Ala Thr Asp Gly His Gln Phe
 50 55 60
 Leu Lys His Ala Ala Thr Ala Gly Ala Val Ala Ala Val Val Ser His
 65 70 75 80
 Asp Tyr Gln Gly Asp Ser Phe Gly Leu Glu Leu Ile Arg Val Asp Asp
 85 90 95
 Thr Lys Ser Ala Leu Gln Glu Ala Gly Ser Asn Gln Cys Asn Leu Phe
 100 105 110
 Gln Gly Thr Leu Val Gly Ile Thr Gly Ser Val Gly Lys Thr Thr Thr
 115 120 125
 Lys Glu Phe Ser Lys Thr Ile Leu Ser Ser Ile Tyr Lys Thr His Ala
 130 135 140
 Ser Pro Lys Ser Tyr Asn Ser Gln Leu Thr Val Pro Leu Ser Leu Leu
 145 150 155 160
 Met Ala Glu Gly Asp Glu Asp Val Met Ile Leu Glu Met Gly Val Ser
 165 170 175
 Glu Pro Gly Asn Met Gln Asp Leu Leu Arg Ile Val Gln Pro Glu Ile
 180 185 190
 Ala Val Ile Thr His Ile Asn Asp Gln His Ala Met His Phe Pro Gln
 195 200 205

Gly Ile Gln Glu Ile Leu Lys Glu Lys Ser Tyr Ile Leu Gln Lys Ser
 210 215 220
 Lys Leu Gln Leu Leu Pro Lys Asp Ser Pro Tyr Tyr Leu Asp Leu Arg
 225 230 235 240
 Ser Cys Ser Pro Thr Ala Glu Lys Phe Ser Phe Ser Phe Asn Asp Pro
 245 250 255
 Leu Ala Asp Phe Cys Tyr Lys Ala Ile Ser Gly Asp Ser Val Val Ile
 260 265 270
 Gln Thr Pro Glu Glu Asn Tyr Cys Leu Pro Ile Ala Phe Ser Tyr Lys
 275 280 285
 Pro Ala Tyr Thr Asn Leu Leu Ile Ala Val Ala Leu Ser Trp Ile Leu
 290 295 300
 Glu Val Pro Glu Glu Gly Val Ile Arg Ser Leu Pro Glu Leu Lys Leu
 305 310 315 320
 Pro Pro Met Arg Phe Glu His Ser Met Arg Asn Gly Met Gln Val Ile
 325 330 335
 Asn Asp Ala Tyr Asn Ala Cys Pro Glu Ala Met Ile Ala Ala Leu Asp
 340 345 350
 Ala Leu Pro Leu Pro Ser Asp Gly Gly Lys Ile Ile Leu Ile Leu Gly
 355 360 365
 His Met Ala Glu Leu Gly Arg Tyr Ser Glu Glu Gly His Ala Leu Val
 370 375 380
 Ala Glu Lys Ala Ala Ser Arg Gly Asp Met Ile Phe Phe Ile Gly Glu
 385 390 395 400
 Lys Trp Ile Pro Val Gln Ser Val Leu Lys Ser Tyr Ser Cys Glu Val
 405 410 415
 Ser Phe Phe Ser Ser Ala Gln Asp Val Lys Asp Ile Leu Lys Gln Val
 420 425 430
 Ala Arg Tyr Gly Asp Val Ile Leu Leu Lys Gly Ser Arg Ala Leu Ala
 435 440 445
 Leu Glu Ser Leu Leu Ala Cys Phe
 450 455

<210> 902
 <211> 358
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0900

<400> 902
 Leu Val Phe Asn Phe Leu Gly Ala Ser Met Ile Pro Leu Ile Pro Met
 1 5 10 15
 Phe Leu Lys Gln Ser Leu Phe Phe Ser Leu Ala Leu Thr Gly Met Thr
 20 25 30
 Thr Leu Val Leu Thr Val Ala Leu Gly Val Pro Val Met Lys Trp Leu
 35 40 45
 Lys Arg Lys Asn Tyr Arg Asp Tyr Ile His Lys Glu Tyr Cys Glu Lys
 50 55 60
 Leu Glu Met Leu His Lys Asp Lys Ala Glu Val Pro Thr Gly Gly Gly
 65 70 75 80
 Val Leu Leu Phe Ile Ser Leu Ile Ala Ser Leu Leu Val Trp Leu Pro
 85 90 95
 Trp Gly Lys Phe Ser Thr Trp Phe Phe Ile Ile Leu Leu Thr Cys Tyr
 100 105 110
 Ala Gly Leu Gly Trp Tyr Asp Asp Arg Ile Lys Ile Lys Arg Lys Gln
 115 120 125
 Gly His Gly Leu Lys Ala Lys His Lys Phe Met Val Gln Ile Ala Ile
 130 135 140

Ala Ala Phe Thr Leu Ile Ala Leu Pro Tyr Ile Tyr Gly Ser Thr Glu
 145 150 155 160
 Pro Leu Trp Thr Leu Lys Ile Pro Phe Met Glu Gly Met Leu Ser Leu
 165 170 175
 Pro Phe Trp Leu Gly Lys Val Phe Cys Leu Gly Leu Ala Leu Val Ala
 180 185 190
 Ile Ile Gly Thr Ser Asn Ala Val Asn Leu Thr Asp Gly Leu Asp Gly
 195 200 205
 Leu Ala Ala Gly Thr Met Ser Phe Ala Ala Leu Gly Phe Ile Phe Val
 210 215 220
 Ala Leu Arg Ser Ser Thr Ile Pro Ile Ala Gln Asp Val Ala Tyr Val
 225 230 235 240
 Leu Ala Ala Leu Val Gly Ala Cys Ile Gly Phe Leu Trp Tyr Asn Gly
 245 250 255
 Phe Pro Ala Gln Leu Phe Met Gly Asp Thr Gly Ser Leu Leu Gly
 260 265 270
 Gly Leu Leu Gly Ser Cys Ala Val Met Leu Arg Ala Glu Cys Ile Leu
 275 280 285
 Val Val Ile Gly Gly Val Phe Val Ala Glu Ala Gly Ser Val Ile Leu
 290 295 300
 Gln Val Leu Ser Cys Arg Leu Arg Lys Lys Arg Leu Phe Leu Cys Ser
 305 310 315 320
 Pro Leu His His His Tyr Glu Tyr Gln Gly Leu Pro Glu Thr Lys Ile
 325 330 335
 Val Met Arg Phe Trp Ile Phe Ser Phe Val Cys Ala Gly Leu Gly Ile
 340 345 350
 Ala Ala Val Leu Trp Arg
 355

<210> 903
 <211> 433
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0901

<400> 903
 Phe Cys Met Arg Arg Ser Arg Tyr Ser Gly Cys Leu Met Glu Ile Asp
 1 5 10 15
 Met Cys Gln Arg Ile Leu Ile Leu Gly Thr Gly Ile Thr Gly Lys Ser
 20 25 30
 Val Ala Arg Phe Leu Tyr Gln Gln Gly His Tyr Leu Ile Gly Ala Asp
 35 40 45
 Asn Ser Leu Glu Ser Leu Ile Ser Val Asp His Leu His Asp Arg Leu
 50 55 60
 Leu Met Gly Ala Ser Glu Phe Pro Glu Asn Ile Asp Leu Val Ile Arg
 65 70 75 80
 Ser Pro Gly Ile Lys Pro Tyr His Pro Trp Val Glu Gln Ala Val Ser
 85 90 95
 Leu Lys Ile Pro Val Val Thr Asp Ile Gln Val Ala Leu Lys Thr Pro
 100 105 110
 Glu Phe Gln Arg Tyr Pro Ser Phe Gly Ile Thr Gly Ser Asn Gly Lys
 115 120 125
 Thr Thr Thr Thr Leu Phe Leu Thr His Leu Leu Asn Thr Leu Gly Ile
 130 135 140
 Pro Ala Ile Ala Met Gly Asn Ile Gly Leu Pro Ile Leu Asp His Met
 145 150 155 160
 Gly Gln Pro Gly Val Arg Val Val Glu Ile Ser Ser Phe Gln Leu Ala
 165 170 175

Thr Gln Glu Glu His Ile Pro Ala Leu Ser Gly Ser Val Phe Leu Asn
 180 185 190
 Phe Ser Arg Asn His Leu Asp Tyr His Arg Asn Leu Asp Ala Tyr Phe
 195 200 205
 Asp Ala Lys Leu Arg Ile Gln Lys Cys Leu Arg Gln Asp Lys Thr Phe
 210 215 220
 Trp Val Trp Glu Glu Cys Ser Leu Gly Asn Ser Tyr Gln Ile Tyr Ser
 225 230 235 240
 Glu Glu Ile Glu Glu Ile Leu Asp Lys Gly Asp Ala Leu Lys Pro Ile
 245 250 255
 Tyr Leu His Asp Arg Asp Asn Tyr Cys Ala Ala Tyr Ala Leu Ala Asn
 260 265 270
 Glu Val Gly Trp Val Ser Pro Glu Gly Phe Leu Lys Ala Ile Arg Thr
 275 280 285
 Phe Glu Lys Pro Ala His Arg Leu Glu Tyr Leu Gly Lys Lys Asp Gly
 290 295 300
 Val His Tyr Ile Asn Asp Ser Lys Ala Thr Thr Val Thr Ala Val Glu
 305 310 315 320
 Lys Ala Leu Met Ala Val Gly Lys Asp Val Ile Val Ile Leu Gly Gly
 325 330 335
 Lys Asp Lys Gly Gly Asp Phe Pro Ala Leu Ala Ser Val Leu Ser Gln
 340 345 350
 Thr Thr Lys His Val Ile Ala Met Gly Glu Cys Arg Gln Thr Ile Ala
 355 360 365
 Asp Ala Leu Ser Glu Lys Ile Pro Leu Thr Leu Ser Lys Asp Leu Gln
 370 375 380
 Glu Ala Val Ser Ile Ala Gln Thr Ile Ala Gln Glu Gly Asp Thr Val
 385 390 395 400
 Leu Leu Ser Pro Gly Cys Ala Ser Phe Asp Gln Phe Gln Ser Phe Lys
 405 410 415
 Glu Arg Gly Ala Tyr Phe Lys Leu Leu Ile Arg Glu Met Gln Ala Val
 420 425 430
 Arg

<210> 904
 <211> 245
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0902

<400> 904
 Ala Val Asp Gln Arg Asn Ala Gly Ser Glu Val Asn Met Asn Arg Arg
 1 5 10 15
 Asp Met Val Ile Thr Ala Val Val Val Asn Ala Ile Leu Leu Val Ala
 20 25 30
 Leu Phe Val Thr Ser Lys Arg Ile Gly Val Lys Asp Tyr Asp Glu Gly
 35 40 45
 Phe Arg Asn Phe Ala Ser Ser Lys Val Thr Gln Ala Val Val Ser Glu
 50 55 60
 Glu Lys Val Ile Glu Lys Pro Val Val Ala Glu Val Pro Ser Arg Pro
 65 70 75 80
 Ile Ala Lys Glu Thr Leu Ala Ala Gln Phe Ile Glu Ser Lys Pro Val
 85 90 95
 Ile Val Thr Thr Pro Pro Val Pro Val Val Ser Glu Thr Pro Glu Val
 100 105 110
 Pro Thr Val Ala Val Pro Pro Gln Pro Val Arg Glu Thr Val Lys Glu
 115 120 125

Glu Gln Ala Pro Tyr Ala Thr Val Val Val Lys Lys Gly Asp Phe Leu
 130 135 140
 Glu Arg Ile Ala Arg Ala Asn His Thr Thr Val Ala Lys Leu Met Gln
 145 150 155 160
 Ile Asn Asp Leu Thr Thr Thr Gln Leu Lys Ile Gly Gln Val Ile Lys
 165 170 175
 Val Pro Thr Ser Gln Asp Val Ser Asn Glu Lys Thr Pro Gln Thr Gln
 180 185 190
 Thr Ala Asn Pro Glu Asn Tyr Tyr Ile Val Gln Glu Gly Asp Ser Pro
 195 200 205
 Trp Thr Ile Ala Leu Arg Asn His Ile Arg Leu Asp Asp Leu Leu Lys
 210 215 220
 Met Asn Asp Leu Asp Glu Tyr Lys Ala Arg Arg Leu Lys Pro Gly Asp
 225 230 235 240
 Gln Leu Arg Ile Arg
 245

<210> 905
 <211> 391
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0903

<400> 905
 Ser Lys Gln Ser Leu Ser Met Lys Trp Phe Val Ile Ser Cys Leu Leu
 1 5 10 15
 Gly Ile Phe Ser Leu Gly Leu Ile Met Val Phe Asp Thr Ser Ser Ala
 20 25 30
 Glu Val Leu Asp Arg Ser Leu Glu Cys Ser Thr His Lys Ala Leu Ile
 35 40 45
 Arg Gln Val Thr Tyr Leu Ile Leu Gly Leu Gly Val Ala Ser Leu Leu
 50 55 60
 Tyr Met Met Glu Trp Arg Asp Phe Leu Lys Ile Ser Pro Val Leu Leu
 65 70 75 80
 Ser Gly Ala Ala Leu Ala Leu Ile Cys Val Phe Ile Pro Gly Leu Gly
 85 90 95
 Ile Cys Arg Asn Gly Ala Arg Arg Trp Leu Gly Phe Gly Gln Leu Thr
 100 105 110
 Ile Gln Pro Ser Glu Phe Val Lys Tyr Leu Val Pro Ile Val Ala Leu
 115 120 125
 Tyr Phe Leu Thr Phe Ser Ser Leu Tyr Gln Lys Gln Leu Lys Met Phe
 130 135 140
 Leu Lys Leu Thr Ala Ile Leu Phe Ile Pro Ile Leu Leu Ile Ala Ile
 145 150 155 160
 Glu Pro Asp Asn Gly Ser Ala Ala Val Ile Ser Ala Ser Leu Ile Pro
 165 170 175
 Val Phe Ile Met Thr Ser Val Arg Leu Arg Tyr Trp Leu Leu Pro Leu
 180 185 190
 Leu Cys Val Leu Ile Ala Gly Gly Ala Leu Ala Tyr Arg Met Pro Tyr
 195 200 205
 Val Arg Tyr Arg Leu Asn Val Tyr Leu His Pro Glu Leu Asp Ile Lys
 210 215 220
 Gly Arg Gly His Gln Pro Tyr Gln Ala Lys Ile Ala Ala Gly Ser Gly
 225 230 235 240
 Lys Leu Leu Gly Lys Gly Pro Gly Ala Ser Leu Gln Lys Leu Thr Tyr
 245 250 255
 Leu Pro Glu Ala Gln Asn Asp Tyr Ile Ala Ala Ile Tyr Ala Glu Glu
 260 265 270

Phe Gly Phe Leu Gly Met Leu Val Leu Ile Leu Leu Tyr Met Cys Phe
 275 280 285
 Val Tyr Gly Gly Tyr Ala Ile Ala Ile Lys Ala Ser Ser Leu Glu Gly
 290 295 300
 Ala Ala Leu Ala Met Val Ile Thr Leu Ile Ile Ser Met Gln Ala Phe
 305 310 315 320
 Met Asn Leu Gly Val Val Ser Gly Leu Leu Pro Ser Lys Gly Val Asn
 325 330 335
 Leu Pro Phe Phe Ser Gln Gly Gly Ser Ser Leu Ile Ala Asn Met Cys
 340 345 350
 Gly Val Thr Leu Leu Leu Lys Val Tyr Asp Glu Glu Asn Ser Lys Ser
 355 360 365
 Ser Leu Gly Cys Arg Arg Phe Arg Arg Pro His Cys Pro Ser Ser Leu
 370 375 380
 Gly Lys Gly Ser Phe Phe Ser
 385 390

<210> 906
 <211> 359
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0904

<400> 906
 Arg Tyr Met Met Lys Lys Ile Arg Lys Val Ala Leu Ala Val Gly Gly
 1 5 10 15
 Ser Gly Gly His Ile Val Pro Ala Leu Ser Val Lys Glu Ala Phe Ser
 20 25 30
 Arg Glu Gly Ile Asp Val Leu Leu Leu Gly Lys Gly Leu Lys Asn His
 35 40 45
 Pro Ser Leu Gln Gln Gly Ile Ser Tyr Arg Glu Ile Pro Ser Gly Leu
 50 55 60
 Pro Thr Val Leu Asn Pro Ile Lys Ile Met Ser Arg Thr Leu Ser Leu
 65 70 75 80
 Cys Ser Gly Tyr Leu Lys Ala Arg Lys Glu Leu Lys Ile Phe Asp Pro
 85 90 95
 Asp Leu Val Ile Gly Phe Gly Ser Tyr His Ser Leu Pro Val Leu Leu
 100 105 110
 Ala Gly Leu Ser His Lys Ile Pro Leu Phe Leu His Glu Gln Asn Leu
 115 120 125
 Val Pro Gly Lys Val Asn Gln Leu Phe Ser Arg Tyr Ala Arg Gly Ile
 130 135 140
 Gly Val Asn Phe Ser Pro Val Thr Lys His Phe Arg Cys Pro Ala Glu
 145 150 155 160
 Glu Val Phe Leu Pro Lys Arg Ser Phe Ser Leu Gly Ser Pro Met Met
 165 170 175
 Lys Arg Cys Thr Asn His Thr Pro Thr Ile Cys Val Val Gly Gly Ser
 180 185 190
 Gln Gly Ala Gln Ile Leu Asn Thr Cys Val Pro Gln Ala Leu Val Lys
 195 200 205
 Leu Val Asn Lys Tyr Pro Asn Met Tyr Val His His Ile Val Gly Pro
 210 215 220
 Lys Ser Asp Val Met Lys Val Gln His Val Tyr Asn Arg Gly Glu Val
 225 230 235 240
 Leu Cys Cys Val Lys Pro Phe Glu Glu Gln Leu Leu Asp Val Leu Leu
 245 250 255
 Ala Ala Asp Leu Val Ile Ser Arg Ala Gly Ala Thr Ile Leu Glu Glu
 260 265 270

Ile Leu Trp Ala Lys Val Pro Gly Ile Leu Ile Pro Tyr Pro Gly Ala
 275 280 285
 Tyr Gly His Gln Glu Val Asn Ala Lys Phe Phe Val Asp Val Leu Glu
 290 295 300
 Gly Gly Thr Met Ile Leu Glu Lys Glu Leu Thr Glu Lys Leu Leu Val
 305 310 315 320
 Glu Lys Val Thr Phe Ala Leu Asp Ser His Asn Arg Glu Lys Gln Arg
 325 330 335
 Asn Ser Leu Ala Ala Tyr Ser Gln Gln Arg Ser Thr Lys Thr Phe His
 340 345 350
 Ala Phe Ile Cys Glu Cys Leu
 355

<210> 907
 <211> 812
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0905

<400> 907
 Val His Tyr Met Lys Gly Thr Pro Gln Tyr His Phe Ile Gly Ile Gly
 1 5 10 15
 Gly Ile Gly Met Ser Ala Leu Ala His Ile Leu Leu Asp Arg Gly Tyr
 20 25 30
 Glu Val Ser Gly Ser Asp Leu Tyr Glu Ser Tyr Thr Ile Glu Ser Leu
 35 40 45
 Lys Ala Lys Gly Ala Arg Cys Phe Ser Gly His Asp Ser Ser His Val
 50 55 60
 Pro His Asp Ala Val Val Tyr Ser Ser Ser Ile Ala Pro Asp Asn
 65 70 75 80
 Val Glu Tyr Leu Thr Ala Ile Gln Arg Ser Ser Arg Leu Leu His Arg
 85 90 95
 Ala Glu Leu Leu Ser Gln Leu Met Glu Gly Tyr Glu Ser Ile Leu Val
 100 105 110
 Ser Gly Ser His Gly Lys Thr Gly Thr Ser Ser Leu Ile Arg Ala Ile
 115 120 125
 Phe Gln Glu Ala Gln Lys Asp Pro Ser Tyr Ala Ile Gly Gly Leu Ala
 130 135 140
 Ala Asn Cys Leu Asn Gly Tyr Ser Gly Ser Ser Lys Ile Phe Val Ala
 145 150 155 160
 Glu Ala Asp Glu Ser Asp Gly Ser Leu Lys His Tyr Thr Pro Arg Ala
 165 170 175
 Val Val Ile Thr Asn Ile Asp Asn Glu His Leu Asn Asn Tyr Ala Gly
 180 185 190
 Asn Leu Asp Asn Leu Val Gln Val Ile Gln Asp Phe Ser Arg Lys Val
 195 200 205
 Thr Asp Leu Asn Lys Val Phe Tyr Asn Gly Asp Cys Pro Ile Leu Lys
 210 215 220
 Gly Asn Val Gln Gly Ile Ser Tyr Gly Tyr Ser Pro Glu Cys Gln Leu
 225 230 235 240
 His Ile Val Ser Tyr Asn Gln Lys Ala Trp Gln Ser His Phe Ser Phe
 245 250 255
 Thr Phe Leu Gly Gln Glu Tyr Gln Asp Ile Glu Leu Asn Leu Pro Gly
 260 265 270
 Gln His Asn Ala Ala Asn Ala Ala Ala Cys Gly Val Ala Leu Thr
 275 280 285
 Phe Gly Ile Asp Ile Asn Ile Ile Arg Lys Ala Leu Lys Lys Phe Ser
 290 295 300

Gly Val His Arg Arg Leu Glu Arg Lys Asn Ile Ser Glu Ser Phe Leu
 305 310 315 320
 Phe Leu Glu Asp Tyr Ala His His Pro Val Glu Val Ala His Thr Leu
 325 330 335
 Arg Ser Val Arg Asp Ala Val Gly Leu Arg Arg Val Ile Ala Ile Phe
 340 345 350
 Gln Pro His Arg Phe Ser Arg Leu Glu Glu Cys Leu Gln Thr Phe Pro
 355 360 365
 Lys Ala Phe Gln Glu Ala Asp Glu Val Ile Leu Thr Asp Val Tyr Ser
 370 375 380
 Ala Gly Glu Ser Pro Arg Glu Ser Ile Ile Leu Ser Asp Leu Ala Glu
 385 390 395 400
 Gln Ile Arg Lys Ser Ser Tyr Val His Cys Cys Tyr Val Pro His Gly
 405 410 415
 Asp Ile Val Asp Tyr Leu Arg Asn Tyr Ile Arg Ile His Asp Val Cys
 420 425 430
 Val Ser Leu Gly Ala Gly Asn Ile Tyr Thr Ile Gly Glu Ala Leu Lys
 435 440 445
 Asp Phe Asn Pro Lys Lys Leu Ser Ile Gly Leu Val Cys Gly Gly Lys
 450 455 460
 Ser Cys Glu His Asp Ile Ser Leu Leu Ser Ala Gln His Val Ser Lys
 465 470 475 480
 Tyr Ile Ser Pro Glu Phe Tyr Asp Val Ser Tyr Phe Ile Ile Asn Arg
 485 490 495
 Gln Gly Leu Trp Arg Thr Gly Lys Asp Phe Pro His Leu Ile Glu Glu
 500 505 510
 Thr Gln Gly Asp Ser Pro Leu Ser Ser Glu Ile Ala Ser Ala Leu Ala
 515 520 525
 Lys Val Asp Cys Leu Phe Pro Val Leu His Gly Pro Phe Gly Glu Asp
 530 535 540
 Gly Thr Ile Gln Gly Phe Phe Glu Ile Leu Gly Lys Pro Tyr Ala Gly
 545 550 555 560
 Pro Ser Leu Ser Leu Ala Ala Thr Ala Met Asp Lys Leu Leu Thr Lys
 565 570 575
 Arg Ile Ala Ser Ala Val Gly Val Pro Val Val Pro Tyr Gln Pro Leu
 580 585 590
 Asn Leu Cys Phe Trp Lys Arg Asn Pro Glu Leu Cys Ile Gln Asn Leu
 595 600 605
 Ile Glu Thr Phe Ser Phe Pro Met Ile Val Lys Thr Ala His Leu Gly
 610 615 620
 Ser Ser Ile Gly Ile Phe Leu Val Arg Asp Lys Glu Glu Leu Gln Glu
 625 630 635 640
 Lys Ile Ser Glu Ala Phe Leu Tyr Asp Thr Asp Val Phe Val Glu Glu
 645 650 655
 Ser Arg Leu Gly Ser Arg Glu Ile Glu Val Ser Cys Ile Gly His Ser
 660 665 670
 Ser Ser Trp Tyr Cys Met Ala Gly Pro Asn Glu Arg Cys Gly Ala Ser
 675 680 685
 Gly Phe Ile Asp Tyr Gln Glu Lys Tyr Gly Phe Asp Gly Ile Asp Cys
 690 695 700
 Ala Lys Ile Ser Phe Asp Leu Gln Leu Ser Gln Glu Ser Leu Asp Cys
 705 710 715 720
 Val Arg Glu Leu Ala Glu Arg Val Tyr Arg Ala Met Gln Gly Lys Gly
 725 730 735
 Ser Ala Arg Ile Asp Phe Phe Leu Asp Glu Glu Gly Asn Tyr Trp Leu
 740 745 750
 Ser Glu Val Asn Pro Ile Pro Gly Met Thr Ala Ala Ser Pro Phe Leu
 755 760 765
 Gln Ala Phe Val His Ala Gly Trp Thr Gln Glu Gln Ile Val Asp His
 770 775 780

Phe Ile Ile Asp Ala Leu His Lys Phe Asp Lys Gln Gln Thr Ile Glu
 785 790 795 800
 Gln Ala Phe Thr Lys Glu Gln Asp Leu Val Lys Arg
 805 810

<210> 908
 <211> 199
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0906

<400> 908
 Lys Trp Gly Ser Glu Val Leu Glu Leu Val Asn Asp Ser Gln Leu Ser
 1 5 10 15
 Arg Glu Ala Ser Ala Phe Arg Leu Asp Ile Asp Phe Phe Ile Leu Asn
 20 25 30
 Ile Tyr Pro Phe Phe Arg Asn Phe Lys Asn Ile Glu Leu Cys Phe Phe
 35 40 45
 Leu Ser Ile Ser Gln Phe Asn Leu Asp Met Glu Glu Phe Val Ala Tyr
 50 55 60
 Ile Val Lys Asn Leu Val Thr Asn Pro Glu Ala Val Glu Ile Arg Ser
 65 70 75 80
 Ile Glu Asp Glu Asp Asn Glu Ser Ile Lys Leu Glu Ile Arg Val Ala
 85 90 95
 Ala Glu Asp Ile Gly Lys Ile Ile Gly Arg Arg Gly Asn Thr Ile His
 100 105 110
 Ala Leu Arg Thr Ile Leu Arg Arg Val Cys Ser Arg Leu Lys Lys Lys
 115 120 125
 Val Gln Ile Asp Leu Val Gln Pro Glu Asn Gly Thr Asp Val Ile Ala
 130 135 140
 Asp Gln Asp Tyr Ile Cys Asp Asn Asp Ser Ser Asn Ser Thr Glu Asp
 145 150 155 160
 Thr Phe Gly Glu Ser Asp Thr Cys Cys Ser Gly His Cys His Tyr Asp
 165 170 175
 Glu Asp Leu Asn Gln Glu Glu Gln Glu Glu Gly Asn Met His His Ser
 180 185 190
 Cys Glu Cys Ser Asn His His
 195

<210> 909
 <211> 124
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0907

<400> 909
 Phe Ala Phe Ser Lys Phe Leu Ile Ile Lys Ser Ser Met Thr Ala Val
 1 5 10 15
 Leu Ile Leu Thr Ser Phe Pro Ser Glu Glu Ser Ala Arg Ser Leu Ala
 20 25 30
 Arg His Leu Ile Thr Glu Arg Leu Ala Ser Cys Val His Val Phe Pro
 35 40 45
 Lys Gly Thr Ser Thr Tyr Leu Trp Glu Gly Lys Leu Cys Glu Ser Glu
 50 55 60
 Glu His His Ile Gln Ile Lys Ser Ile Asp Ile Arg Phe Ser Glu Ile
 65 70 75 80

Cys Leu Ala Ile Gln Glu Phe Ser Gly Tyr Glu Val Pro Glu Val Leu
85 90 95
Leu Phe Pro Ile Glu Asn Gly Asp Pro Arg Tyr Leu Asn Trp Leu Thr
100 105 110
Ile Leu Ser Tyr Pro Glu Lys Pro Pro Leu Ser Asp
115 120

<210> 910
<211> 276
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0908

<400> 910
Ile Leu Ala Ile Leu Phe Met Ile Ile Ile Lys Asn Asn Glu Leu Met
1 5 10 15
Ile Arg Arg Phe Phe Lys Thr Leu Phe Pro Pro Gly Pro Gln Tyr Ser
20 25 30
Leu Cys Tyr Ala Ser Ile Leu Ile Val Leu Ser Ser Leu Val Cys Val
35 40 45
Pro Thr Phe Cys Trp Leu Phe Leu Pro Glu Leu Ser Leu Ser Lys Phe
50 55 60
Asn Pro Ser Pro Ile Arg Asn Leu Phe Leu Val Ser Ser Thr Leu Ser
65 70 75 80
Lys Val Pro Pro Thr Ala Ile Ala Glu His Leu Arg Leu Ser Ala Asp
85 90 95
Ala Pro Thr Tyr Leu His Glu Phe Ser Ile Lys Glu Ala Glu Ser Ser
100 105 110
Leu His Ala Leu Gly Ile Phe Ser Ser Leu Val Ile Glu Lys Ser Pro
115 120 125
Asp Asn Lys Gly Ile Thr Ile Phe Tyr Thr Leu Gln Thr Pro Ile Ala
130 135 140
Tyr Val Gly Asn Arg Ser Asn Thr Leu Cys Asn Leu Glu Gly Ser Cys
145 150 155 160
Phe Leu Gly Gln Pro Tyr Phe Pro Ser Leu Asn Leu Pro Gln Ile Phe
165 170 175
Phe Ser Gln Glu Asp Leu Lys Met Gln Lys Leu Pro Lys Glu Lys Met
180 185 190
Leu Phe Thr Lys Ile Leu Leu Lys Glu Leu Ala Met Glu Ser Pro Lys
195 200 205
Ile Ile Asp Leu Ser Leu Ser Asp Ala Tyr Pro Gly Glu Ile Ile Val
210 215 220
Thr Leu Ser Ser Gly Ser Leu Leu Arg Leu Pro Ile Lys Thr Leu Asp
225 230 235 240
Arg Ala Leu Asp Leu Tyr Lys His Met Lys Lys Ser Pro Val Ile Glu
245 250 255
Ser Glu Lys Gln Tyr Val Tyr Asp Leu Arg Phe Pro Asn Phe Leu Leu
260 265 270
Leu Lys Ala Leu
275

<210> 911
<211> 125
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0909

<400> 911
 Ile Ile Ser Leu Ile Phe Thr Arg Phe Leu Leu Glu Arg Leu Leu Met
 1 5 10 15
 Asn Leu Ser Ala Lys Glu Tyr Gly Asp Ile Ile Val Ile Tyr Leu Gln
 20 25 30
 Gly Ser Leu Asp Ala Val Ser Val Pro Ser Val Gln Glu Tyr Leu Glu
 35 40 45
 Gln Phe Ile Gln Lys Lys His Leu Lys Ile Ala Leu Asn Phe Thr Asp
 50 55 60
 Val Ser Tyr Ile Ser Ser Ala Gly Ile Arg Leu Leu Leu Ser Asn Phe
 65 70 75 80
 Lys Leu Val Gln Ser Leu Gly Gly Lys Met Cys Leu Cys Cys Val Lys
 85 90 95
 Glu Ser Val Thr Glu Val Met Arg Ile Ala Gly Leu Asp Gln Leu Ile
 100 105 110
 Leu Leu Cys Gln Ser Glu Gln Glu Cys Leu Ser Lys Leu
 115 120 125

<210> 912
 <211> 345
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0910

<400> 912
 Phe Leu Tyr Met Leu Pro Phe Glu Phe Glu Phe Asn Thr Thr Ser Ser
 1 5 10 15
 Pro Glu Cys Asp Val Cys Leu Asp Pro Gln Lys Leu Phe Val Lys Leu
 20 25 30
 Phe Lys Arg Thr Ile Val Leu Leu Ser Gly Pro Thr Gly Ser Gly Lys
 35 40 45
 Thr Asp Val Ser Leu Ala Leu Ala Pro Met Ile Asp Gly Glu Ile Val
 50 55 60
 Ser Val Asp Ser Met Gln Val Tyr Gln Gly Met Asp Ile Gly Thr Ala
 65 70 75 80
 Lys Val Ser Leu Lys Ala Arg Gln Glu Ile Pro His His Leu Ile Asp
 85 90 95
 Ile Arg His Val Gln Glu Pro Phe Asn Val Val Asp Phe Tyr Tyr Glu
 100 105 110
 Ala Ile Gln Ala Cys Gln Asn Ile Leu Ser Arg Asn Lys Val Pro Ile
 115 120 125
 Leu Val Gly Gly Ser Gly Phe Tyr Phe His Ala Phe Leu Ser Gly Pro
 130 135 140
 Pro Lys Gly Pro Ala Ala Asp Pro Gln Ile Arg Glu Gln Leu Glu Ala
 145 150 155 160
 Ile Ala Glu Glu His Gly Val Ser Ala Leu Tyr Glu Asp Leu Leu Leu
 165 170 175
 Lys Asp Pro Glu Tyr Ala Gln Thr Ile Thr Lys Asn Asp Lys Asn Lys
 180 185 190
 Ile Ile Arg Gly Leu Glu Ile Ile Gln Leu Thr Gly Lys Lys Val Ser
 195 200 205
 Asp His Glu Trp Asp Ile Val Pro Lys Ala Ser Arg Glu Tyr Cys Cys
 210 215 220
 Arg Ala Trp Phe Leu Ser Pro Glu Thr Glu Phe Leu Lys Asn Asn Ile
 225 230 235 240
 Gln Met Arg Cys Glu Ala Met Leu Gln Glu Gly Leu Leu Glu Glu Val
 245 250 255
 Arg Gly Leu Leu Asn Gln Gly Ile Arg Glu Asn Pro Ser Ala Phe Lys
 260 265 270

Ala Ile Gly Tyr Arg Glu Trp Ile Glu Phe Leu Asp Asn Gly Glu Lys
275 280 285
Leu Glu Glu Tyr Glu Glu Thr Lys Arg Lys Phe Val Ser Asn Ser Trp
290 295 300
His Tyr Thr Lys Lys Gln Lys Thr Trp Phe Lys Arg Tyr Ser Ile Phe
305 310 315 320
Arg Glu Leu Pro Thr Leu Gly Leu Ser Ser Asp Ala Ile Ala Gln Lys
325 330 335
Ile Ala Lys Asp Tyr Leu Leu Tyr Ser
340 345

<210> 913
<211> 365
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0911

<400> 913
Ser Leu Leu Leu Ala Ile Phe Asn Val Asn Tyr Phe Met Asn Leu Cys
1 5 10 15
Lys Arg Ile Ser Phe Glu Glu Gly Leu Glu Leu Phe Val Ser Ser Pro
20 25 30
Ile Glu Arg Leu Gln Glu Arg Ala Asp Ala Ile Arg Lys Glu Arg Tyr
35 40 45
Pro Ser Asn Glu Val Thr Tyr Val Leu Asp Ala Asn Pro Asn Tyr Thr
50 55 60
Asn Ile Cys Lys Ile Asp Cys Thr Phe Cys Ala Phe Tyr Arg Lys Pro
65 70 75 80
Lys Ser Pro Asp Ala Tyr Leu Leu Ser Phe Asp Glu Val Arg Ser Leu
85 90 95
Leu Gln Arg Tyr Val Ser Ser Gly Val Lys Thr Val Leu Leu Gln Gly
100 105 110
Gly Val His Pro Gly Leu Gly Ile Asp Tyr Leu Glu Glu Leu Val Arg
115 120 125
Ile Thr Val Gln Glu Phe Pro Ser Ile His Pro His Phe Phe Ser Ala
130 135 140
Val Glu Ile Glu His Ala Cys Arg Val Ser Gly Ile Ser Ile Glu Gln
145 150 155 160
Gly Leu Gln Arg Leu Trp Asp Ala Gly Gln Arg Thr Ile Pro Gly Gly
165 170 175
Gly Ala Glu Ile Leu Ser Glu Arg Val Arg Lys Ile Ile Ser Pro Lys
180 185 190
Lys Met Gln Pro Gly Gly Trp Ile Asn Leu His Lys Leu Ala His Leu
195 200 205
Met Gly Phe Arg Thr Thr Ala Thr Met Met Phe Gly His Val Glu Asn
210 215 220
Pro Glu Asp Ile Leu Ile His Leu Gln Thr Leu Arg Asp Ala Gln Asp
225 230 235 240
Ser Cys Pro Gly Phe Tyr Ser Phe Ile Pro Trp Ser Tyr Lys Pro Gly
245 250 255
Asn Thr Ala Leu Arg Arg Asn Val Pro Gln Gln Ala Ser Ile Glu Thr
260 265 270
Tyr Tyr Arg Ile Leu Ala Leu Gly Arg Ile Phe Leu Asp Asn Phe Asp
275 280 285
His Val Ala Ala Ser Trp Phe Gly Glu Gly Lys Ser Leu Gly Ala Lys
290 295 300
Ala Leu His Tyr Gly Ala Asp Asp Phe Gly Gly Val Ile Leu Asp Glu
305 310 315 320

Ser Val His Lys Ala Thr Gly Trp Ser Ile Gln Ser Ser Glu Glu Glu
325 330 335
Ile Cys Asn Ile Ile Arg Ser Glu Gly Phe Ile Pro Val Glu Arg Asn
340 345 350
Thr Phe Tyr Gln His Ile Ser Cys Thr Val Ser Ser Leu
355 360 365

<210> 914
<211> 547
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0912

<400> 914
Val Val Ile Met Asp Asn Ser Asp Asn Ser Phe His Thr Leu Glu Thr
1 5 10 15
Glu Gln Gly Ser Phe Leu Asn Asp Glu Leu Ala Val Glu Glu Val Ala
20 25 30
Ser Thr Glu Ser Thr Glu Ile Ser Asp Ala Thr Leu Cys Phe Ala Glu
35 40 45
Lys Lys Val Ala Phe Ile Leu Asn Lys Met Arg Glu Ala Leu Thr Gly
50 55 60
Ser Ser Gln Gly Ser Asp Leu Arg Leu Phe Trp Asp Leu Arg Lys Gln
65 70 75 80
Cys Leu Pro Leu Phe Asn Glu Ile Glu Asp Thr Ala Lys Arg Ala Asp
85 90 95
His Trp Arg Cys Tyr Ile Glu Leu Thr Lys Glu Gly Arg His Leu Lys
100 105 110
Gly Leu Gln Asp Glu Glu Gly Ser Phe Val Val Gly Gln Ile Asp Leu
115 120 125
Ala Ile Thr Cys Leu Glu Lys Asp Ile Leu Lys Phe Gln Glu Gly Thr
130 135 140
Glu Asp Lys Ile Phe Lys Asp Arg Glu Asp Asn Phe Leu Glu Ser Gln
145 150 155 160
Ala Leu Asp Lys His Gln Ala Phe Tyr Lys Gln His His Thr Ser Leu
165 170 175
Leu Trp Leu Ser Ser Phe Ser Ser Lys Ile Ile Asp Leu Arg Lys Glu
180 185 190
Leu Ile Asn Val Gly Met Arg Met Arg Leu Lys Ser Lys Phe Phe Gln
195 200 205
Arg Leu Ser Asn Leu Gly Asn Gln Val Phe Pro Lys Arg Lys Glu Leu
210 215 220
Ile Glu Lys Val Ser Gln Thr Phe Ala Glu Asp Val Asp Ala Phe Val
225 230 235 240
Ala Lys Tyr Phe Ile Gly Ser Asp Lys Glu Thr Leu Lys Lys Thr Val
245 250 255
Phe Phe Leu Arg Lys Glu Ile Lys Asn Leu Gln His Ala Ala Lys Arg
260 265 270
Leu Phe Val Ser Ser His Val Phe Ala Glu Thr Arg Leu Lys Leu Ser
275 280 285
Lys Cys Trp Asp Gln Leu Lys Gly Met Glu Lys Glu Ile Arg Gln Glu
290 295 300
Gln Gly Arg Leu Arg Val Ser Ala Glu Asn Ser Lys Glu Val Arg
305 310 315 320
Gln Met Leu Ala Glu Val Ser Ser Leu Leu Ile Glu Gly Asn Asp Leu
325 330 335
Ser Lys Val Arg Lys Asp Leu Glu Gly Ile Ser Lys Lys Ile Arg Ala
340 345 350

Leu Asp Leu Thr His Asp Asp Val Ile Ser Leu Lys Lys Glu Met Gln
 355 360 365
 Gln Leu Phe Asp Gln Leu Arg Glu Lys Gln Asp Ala Ala Glu His Ser
 370 375 380
 Tyr Gln Glu Gln Leu Ala Lys Asp Lys Gln Val Lys Lys Glu Ala Ala
 385 390 395 400
 Arg Ser Leu Ala Glu Arg Ile Thr Thr Phe Ser Lys Thr Cys Ser Glu
 405 410 415
 Gly Asn Ile Thr Ser Glu Ser Arg Glu Glu Trp Gln Thr Leu Lys Glu
 420 425 430
 Leu Leu Gly Lys Met Ser Phe Leu Pro Pro Pro Glu Lys Ile Ser Leu
 435 440 445
 Asp Asn Gln Leu Asn Leu Ala Leu Gln Thr Ile Val Asn Phe Phe Glu
 450 455 460
 Glu Gln Leu Leu Ser Ser Pro Asp Ser Arg Glu Lys Leu Val Asn Met
 465 470 475 480
 Arg Gln Val Leu Lys Gln Arg Arg Glu Arg Arg Gln Glu Leu Lys Asp
 485 490 495
 Lys Leu Glu Gln Asp Lys Lys Leu Leu Gly Ser Ser Gly Leu Asp Phe
 500 505 510
 Asp Arg Ala Met Gln Tyr Ser Ala Leu Val Glu Glu Asp Lys Arg Ala
 515 520 525
 Leu Glu Glu Leu Asp Ala Ser Ile Leu Glu Leu Lys Gln Gln Ile Gln
 530 535 540
 Gln Leu Leu
 545

<210> 915
 <211> 79
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0913

<400> 915
 Arg Ile Gly Cys Lys Tyr Phe Arg Ile Glu Ala Thr Asp Ser Ala Ile
 1 5 10 15
 Ala Met Arg Arg Asn Cys Ile Tyr Ala Phe Asp Leu Asp Gly Thr Leu
 20 25 30
 Leu Lys Gly Asn Ser Ser Trp Ser Phe Tyr Cys Tyr Gly Leu Leu Gln
 35 40 45
 Gly Leu Phe Ser Tyr Lys Thr Leu Pro Pro Cys Ile Tyr Arg Phe Phe
 50 55 60
 Arg Phe Lys Phe Phe Phe Gly Ile Phe His Pro Ser Ile Ile Arg
 65 70 75

<210> 916
 <211> 163
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0914

<400> 916
 Val Phe Phe Trp Asp Leu Pro Ser Phe Tyr Tyr Ser Ile Val Thr Arg
 1 5 10 15
 Leu Leu Ser Ser Val Pro Cys Asp Asp Leu Tyr Glu Val Ala Leu Asn
 20 25 30

Phe Val Ser Thr Leu Thr Gly Ser Asp Phe Tyr Ala Pro Val Leu Glu
 35 40 45
 Lys Leu Glu Glu Ala Phe Ala Asp Thr Thr Gly Gln Val Ile Leu Phe
 50 55 60
 Ser Ser Ser Pro Asp Phe Ile Val His Pro Ile Ala Gln Gln Leu Gly
 65 70 75 80
 Ile Ser Ser Trp Tyr Ala Ser Cys Tyr Arg Asp Gln Ser Ala Glu Gln
 85 90 95
 Thr Ile Tyr Lys Lys Cys Leu Thr Gly Asp Lys Lys Ala Gln Ile Leu
 100 105 110
 Ser Tyr Ile Lys Lys Ile Asn Gln Ala Arg Ser His Thr Phe Ser Asp
 115 120 125
 His Ile Leu Asp Leu Pro Phe Leu Met Leu Gly Glu Glu Lys Thr Val
 130 135 140
 Val Arg Pro Gln Gly Arg Leu Lys Lys Met Ala Lys Lys Tyr Tyr Trp
 145 150 155 160
 Asn Ile Val

<210> 917
 <211> 139
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0915

<400> 917
 Phe His Leu Lys Lys Ser Ser Thr Leu Ser Trp Ile Ile Glu Tyr Pro
 1 5 10 15
 Lys Ala Gly Phe Met Asp Ser Phe Cys Phe Asp Leu Leu Lys Val Ala
 20 25 30
 Ala Lys Ala Ile Asp Asp Lys Lys Gly Asn Asn Leu Val Val Leu Asp
 35 40 45
 Val Arg Thr Ile Ser Glu Phe Thr Asp Tyr Phe Val Phe Val Glu Gly
 50 55 60
 Ser Val Asn Val His Val Lys Ala Leu Ala Asn Thr Ile Val Glu Glu
 65 70 75 80
 Leu Lys Lys Gln Lys Val Ser Pro Leu His Val Glu Gly Ile Thr Asp
 85 90 95
 Gly Asn Trp Val Val Ile Asp Tyr Gly Phe Ile Val Val His Val Phe
 100 105 110
 Val Ser Glu Ile Arg Gly Lys Tyr Arg Leu Glu Glu Leu Trp Lys Asp
 115 120 125
 Gly Phe Ile Val Thr Ser Lys Leu Leu Ala Ser
 130 135

<210> 918
 <211> 424
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0916

<400> 918
 Leu Leu Asn Gly Val Arg Val Tyr Met Ser Lys Lys Arg Val Val Val
 1 5 10 15
 Thr Gly Phe Gly Val Val Ser Cys Leu Gly Asn Glu Val Asp Thr Phe
 20 25 30

Tyr Asp Asn Leu Leu Ala Gly Val Ser Gly Val Arg Pro Ile Thr Ser
 35 40 45
 Phe Pro Cys Glu Asp Tyr Ala Thr Arg Phe Ala Gly Trp Ile Pro Glu
 50 55 60
 Phe Asn Pro Glu Pro Tyr Val Asp Lys Lys Gln Ala Arg Arg Val Asp
 65 70 75 80
 Pro Phe Ile Thr Tyr Ala Met Val Ala Lys Lys Ala Ile Ala Met
 85 90 95
 Ser Arg Trp Asp Lys Asp His Leu Pro Ser Asp Pro Val Arg Cys Gly
 100 105 110
 Val Ile Val Gly Ser Gly Met Gly Gly Leu Ser Thr Leu Asp Gln Gly
 115 120 125
 Met Glu Arg Leu Leu Val Ile His Lys Lys Leu Ser Pro Phe Phe Ile
 130 135 140
 Pro Tyr Ile Ile Thr Asn Met Ala Pro Ala Leu Ile Ala Met Asp Phe
 145 150 155 160
 Gly Leu Met Gly Pro Asn Tyr Ser Ile Ser Thr Ala Cys Ala Thr Gly
 165 170 175
 Asn Tyr Cys Ile Asp Ala Ala Tyr Gln His Leu Val Ser Gly Arg Ala
 180 185 190
 Asp Met Ile Ile Cys Gly Gly Thr Glu Ala Ala Val Asn Arg Ile Gly
 195 200 205
 Leu Glu Gly Phe Ile Ala Asn Arg Ala Leu Ser Glu Arg Asn Asp Ala
 210 215 220
 Pro Asp Gln Ala Ser Arg Pro Trp Asp Arg Asp Arg Gly Phe Val
 225 230 235 240
 Leu Gly Glu Gly Ala Gly Ile Leu Val Leu Glu Thr Leu Glu Ser Ala
 245 250 255
 Leu Arg Arg Asp Ala Pro Ile Phe Ala Glu Met Leu Gly Ser Tyr Val
 260 265 270
 Thr Cys Asp Ala Phe His Ile Thr Ala Pro Arg Asp Asp Gly Glu Gly
 275 280 285
 Ile Thr Ala Cys Val Leu Gly Ala Leu Asn Ser Ala Gly Ile Pro Lys
 290 295 300
 Glu Arg Val Asn Tyr Val Asn Ala His Gly Thr Ser Thr Pro Leu Gly
 305 310 315 320
 Asp Leu Ser Glu Val Leu Ala Val Lys Lys Ala Phe Gly Ser His Val
 325 330 335
 Arg Asn Leu Arg Met Asn Ser Thr Lys Ser Leu Ile Gly His Cys Leu
 340 345 350
 Gly Ala Ala Gly Gly Val Glu Ala Val Val Ala Ile Gln Ala Ile Leu
 355 360 365
 Thr Gly Lys Leu His Pro Thr Ile Asn Leu Asp Asn Pro Ile Ala Glu
 370 375 380
 Ile Glu Asp Phe Asp Val Val Ala Asn Lys Ala Gln Asp Trp Asp Ile
 385 390 395 400
 Asp Val Ala Met Ser Asn Ser Phe Gly Phe Gly Gly His Asn Ser Thr
 405 410 415
 Ile Leu Phe Ser Arg Tyr Val Pro
 420

<210> 919

<211> 162

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0917

<400> 919
Phe Asn Asp Ile Ile Leu Glu Val Cys Thr Leu Val Met Met Lys Thr
1 5 10 15
Lys Tyr Glu Tyr Ser Phe Gly Val Ile Pro Ile Lys Phe Phe Gly Thr
20 25 30
Pro Asp Lys Asn Thr Leu Lys Ala Cys Phe Ile Cys His Thr Arg Gly
35 40 45
Lys His Trp Gly Phe Pro Lys Gly His Ser Glu Asp Lys Glu Gly Pro
50 55 60
Gln Glu Ala Ala Glu Arg Glu Leu Val Glu Glu Thr Gly Leu Ser Val
65 70 75 80
Val Asn Phe Phe Pro Lys Val Leu Ile Glu Gln Tyr Ser Phe Asn Asn
85 90 95
Glu Glu Gln Val Phe Val Arg Lys Glu Val Thr Tyr Phe Leu Ala Glu
100 105 110
Val Arg Gly Asp Ile His Ala Asp Pro Met Glu Ile Cys Asp Ser Gln
115 120 125
Trp Leu Ser Leu Gln Glu Gly Leu Arg Leu Leu Ser Phe Pro Glu Leu
130 135 140
Arg Asp Leu Thr Val Glu Ala Asp Lys Phe Ile Asn Asn Tyr Leu Phe
145 150 155 160
Ser Ser

<210> 920
<211> 218
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0918

<400> 920
Glu Leu Leu Met Ser Lys Lys Pro Leu Tyr Val Ala His Pro Trp His
1 5 10 15
Ser Pro Thr Leu Thr Gln Asp Asn Tyr Glu Ser Leu Cys Cys Tyr Ile
20 25 30
Glu Ile Thr Pro Tyr Asp Ser Val Lys Phe Glu Leu Asp Lys Ala Thr
35 40 45
Gly Leu Leu Lys Val Asp Arg Pro Gln Lys Phe Ser Asn Phe Cys Pro
50 55 60
Cys Leu Tyr Gly Leu Leu Pro Gln Thr Tyr Cys Gly Thr Ala Ser Gly
65 70 75 80
Asn Tyr Ser Gly Glu Gln Thr Arg Arg Glu Gly Ile Gln Gly Asp Lys
85 90 95
Asp Pro Leu Asp Val Cys Val Leu Thr Glu Lys Asn Ile His His Gly
100 105 110
Asn Ile Leu Leu Gln Ala Arg Pro Ile Gly Gly Leu Arg Ile Ile Asp
115 120 125
Ser Gly Glu Ala Asp Asp Lys Ile Ile Ala Val Leu Glu Asp Asp Leu
130 135 140
Val Phe Ala Glu Ile Glu Asp Ile Ser Asp Cys Pro Gly Thr Val Leu
145 150 155 160
Asp Met Ile Gln His Tyr Phe Leu Thr Tyr Lys Ala Thr Pro Asn His
165 170 175
Leu Ile Lys Gly Ser Pro Ala Lys Ile Glu Ile Val Gly Ile Tyr Gly
180 185 190
Lys Lys Glu Ala Gln Lys Val Ile Gln Leu Ala His Glu Asp Tyr Leu
195 200 205
Ser Tyr Ile Gly Asp Thr Ala Glu Val Asn
210 215

<210> 921
 <211> 352
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0919

<400> 921
 Phe Met Lys Tyr Ser Leu Asn Phe Lys Glu Ile Lys Ile Asp Asp Tyr
 1 5 10 15
 Glu Arg Val Ile Glu Val Thr Cys Ser Lys Val Arg Leu His Ala Ile
 20 25 30
 Ile Ala Ile His Gln Thr Ala Val Gly Pro Ala Leu Gly Gly Val Arg
 35 40 45
 Ala Ser Leu Tyr Ser Ser Phe Glu Asp Ala Cys Thr Asp Ala Leu Arg
 50 55 60
 Leu Ala Arg Gly Met Thr Tyr Lys Ala Ile Ile Ser Asn Thr Gly Thr
 65 70 75 80
 Gly Gly Gly Lys Ser Val Ile Ile Leu Pro Gln Asp Ala Pro Ser Leu
 85 90 95
 Thr Glu Asp Met Leu Arg Ala Phe Gly Gln Ala Val Asn Ala Leu Glu
 100 105 110
 Gly Thr Tyr Ile Cys Ala Glu Asp Leu Gly Val Ser Ile Asn Asp Ile
 115 120 125
 Ser Ile Val Ala Glu Glu Thr Pro Tyr Val Cys Gly Ile Ala Asp Val
 130 135 140
 Ser Gly Asp Pro Ser Ile Tyr Thr Ala His Gly Gly Phe Leu Cys Ile
 145 150 155 160
 Lys Glu Thr Ala Lys Tyr Leu Trp Gly Ser Ser Ser Leu Arg Gly Lys
 165 170 175
 Lys Ile Ala Ile Gln Gly Ile Gly Ser Val Gly Arg Arg Leu Leu Gln
 180 185 190
 Ser Leu Phe Glu Gly Ala Glu Leu Tyr Val Ala Asp Val Leu Glu
 195 200 205
 Arg Ala Val Gln Asp Ala Ala Arg Leu Tyr Gly Ala Thr Ile Val Pro
 210 215 220
 Thr Glu Glu Ile His Ala Leu Glu Cys Asp Ile Phe Ser Pro Cys Ala
 225 230 235 240
 Arg Gly Asn Val Ile Arg Lys Asp Asn Leu Ala Asp Leu Asn Cys Lys
 245 250 255
 Ala Ile Val Gly Val Ala Asn Asn Gln Leu Glu Asp Ser Ser Ala Gly
 260 265 270
 Met Met Leu His Glu Arg Gly Ile Leu Tyr Gly Pro Asp Tyr Leu Val
 275 280 285
 Asn Ala Gly Gly Leu Leu Asn Val Ala Ala Ala Ile Glu Gly Arg Val
 290 295 300
 Tyr Ala Pro Lys Glu Val Leu Leu Lys Val Glu Glu Leu Pro Ile Val
 305 310 315 320
 Leu Ser Lys Leu Tyr Asn Gln Ser Lys Thr Thr Gly Lys Asp Leu Val
 325 330 335
 Ala Leu Ser Asp Ser Phe Val Glu Asp Lys Leu Leu Ala Tyr Thr Ser
 340 345 350

<210> 922
 <211> 331
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0920

<400> 922

Ile Leu Glu Glu Asn Ser Met His Ser Glu Leu Pro Asn Tyr Gln Asn
1 5 10 15
Ile Val Glu Ser Val Val Thr Glu Ile Thr Thr Gln Leu Leu Asn Tyr
20 25 30
Arg Ser Glu His Arg Leu Val Pro Phe Trp Glu Lys Ser Asp Gly Ser
35 40 45
Phe Ile Thr Ala Ala Asp Tyr Gly Ser Gln Tyr Tyr Leu Lys Gln Gln
50 55 60
Leu Ala Lys Ala Phe Pro Asn Ile Pro Phe Ile Gly Glu Glu Thr Leu
65 70 75 80
Tyr Pro Asp Gln Asp Asn Glu Lys Ile Pro Glu Ile Leu Lys Phe Thr
85 90 95
Arg Leu Leu Thr Ser Ser Val Ser Arg Asp Asp Leu Ile Ser Thr Leu
100 105 110
Val Pro Pro Pro Ser Pro Thr Ser Leu Phe Trp Leu Val Asp Pro Ile
115 120 125
Asp Gly Thr Ala Gly Phe Ile Arg His Arg Ala Phe Ala Val Ala Ile
130 135 140
Ser Leu Ile Tyr Glu Tyr Arg Pro Ile Leu Ser Val Met Ala Cys Pro
145 150 155 160
Ala Tyr Asn Gln Thr Phe Lys Leu Tyr Ser Ala Ala Lys Gly His Gly
165 170 175
Leu Ser Ile Val His Ser Gln Asn Leu Asp Arg Arg Phe Val Tyr Ala
180 185 190
Asp Arg Lys Gln Thr Lys Gln Phe Cys Glu Ala Ser Leu Ala Ala Leu
195 200 205
Asn Gln Gln His His Ala Thr Arg Lys Leu Ser Leu Gly Leu Pro Asn
210 215 220
Thr Pro Ser Pro Arg Arg Val Glu Ser Gln Tyr Lys Tyr Ala Leu Val
225 230 235 240
Ala Glu Gly Ala Val Asp Phe Phe Ile Arg Tyr Pro Phe Ile Asp Ser
245 250 255
Pro Ala Arg Ala Trp Asp His Val Pro Gly Ala Phe Leu Val Glu Glu
260 265 270
Ala Gly Gly Arg Val Thr Asp Ala Leu Gly Ala Pro Leu Glu Tyr Arg
275 280 285
Lys Glu Ser Leu Val Leu Asn Asn His Ala Val Ile Leu Ala Ser Gly
290 295 300
Asp Gln Glu Thr His Glu Thr Thr Leu Ala Ala Leu Gln Asn Gln Leu
305 310 315 320
Asn Val Val Pro Thr Asp Lys Leu Ile Ala Leu
325 330

<210> 923
<211> 256
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0921

<400> 923

Gly Glu Leu Met Leu Ile Lys Leu Trp Arg Ala Thr Tyr Glu Gly Met
1 5 10 15
Tyr Thr Phe Leu Val Gly Ala Leu Leu Lys Leu Arg Tyr Arg Met Gln
20 25 30
Val Glu Gly Trp Asp Thr Leu Asn Ile Asn Pro Lys Gln Gly Cys Leu
35 40 45
Phe Leu Ala Asn His Val Ala Glu Val Asp Pro Ile Ile Leu Glu Tyr
50 55 60

Leu Phe Trp Ser Arg Phe His Val Arg Pro Met Ala Val Glu Tyr Leu
 65 70 75 80
 Phe His Ser Arg Val Val Gln Trp Phe Leu Asn Ser Val Arg Ser Ile
 85 90 95
 Pro Ile Pro Gln Leu Val Pro Gly Lys Glu Ser Lys Arg Ser Leu Glu
 100 105 110
 Arg Met Asn Val Cys Tyr Glu Glu Ala Ser Arg Ala Leu Asn Arg Gly
 115 120 125
 Glu Ser Leu Leu Leu Tyr Pro Ser Gly Arg Leu Ser Arg Thr Gly Lys
 130 135 140
 Glu Glu Ile Val Asn Gln Tyr Ser Ala Tyr Val Leu Leu His Arg Val
 145 150 155 160
 Met Glu Cys Asn Val Val Leu Val Arg Val Ser Gly Leu Trp Gly Ser
 165 170 175
 Ala Phe Ser Arg Tyr Lys Gln Asn Ser Thr Pro Lys Leu Gly Pro Ala
 180 185 190
 Phe Lys Glu Ala Phe Arg Ala Leu Leu Arg Arg Gly Ile Phe Phe Met
 195 200 205
 Pro Lys Arg Phe Val Lys Ile Thr Leu Cys Gln Val Asp His Leu Phe
 210 215 220
 Leu Lys Gln Phe Pro Thr Lys Gln Asp Leu Asn Thr Phe Leu Ala Ser
 225 230 235 240
 Trp Phe Asn Gln Gly Asp Asp Asn Leu Pro Ile Glu Val Pro Tyr Ala
 245 250 255

<210> 924
 <211> 554
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0922

<400> 924
 Gln Phe Ala His Arg Ser Ser Leu Arg Ile Thr Arg Lys Leu Arg Arg
 1 5 10 15
 Met His Asp Gln Arg Asn Arg Gly His Asn Asn His Asn Leu Arg Leu
 20 25 30
 Arg Pro Gly Ser Thr Leu Leu Glu Ala Phe Leu Ile Leu Cys Ser Glu
 35 40 45
 His Glu Glu Gly Ile Ala Cys Phe Asp Glu His Leu Gly Ser Leu Ser
 50 55 60
 Tyr Arg Glu Leu Arg Asn Ala Ile Ile Ala Val Ala Ile Lys Val Ser
 65 70 75 80
 Lys Phe Ser Glu Asp Arg Val Gly Val Met Met Pro Ala Ser Ile Gly
 85 90 95
 Ala Phe Ile Ala Tyr Phe Gly Ile Leu Leu Ala Gly Lys Thr Pro Val
 100 105 110
 Met Met Asn Trp Ser Gln Gly Leu Arg Glu Leu Arg Ala Cys Thr Lys
 115 120 125
 Thr Val Glu Val Arg Arg Val Leu Thr Ser Gln Gln Phe Ile Lys His
 130 135 140
 Leu Thr Glu Val Gln Gly Phe Val Glu Tyr Pro Phe Asp Leu Met Tyr
 145 150 155 160
 Met Glu Asp Val Arg Lys Arg Leu Ser Trp Trp Glu Lys Cys Arg Ile
 165 170 175
 Gly Leu Tyr Ser Lys Cys Ser Val Pro Trp Leu Leu Arg Ile Phe Gly
 180 185 190
 Val Ser Gly Val Glu Ser Asp Asp Thr Ala Val Ile Leu Phe Thr Ser
 195 200 205

Gly Thr Glu Lys Leu Pro Lys Ala Val Pro Leu Thr His Lys Asn Leu
 210 215 220
 Met Glu Asn Gln Glu Ala Cys Leu Lys Phe Phe Asp Pro Asn Thr Gln
 225 230 235 240
 Asp Val Met Leu Ala Phe Leu Pro Pro Phe His Ala Tyr Gly Phe Asn
 245 250 255
 Ser Cys Gly Leu Phe Pro Leu Leu Met Gly Val His Val Val Phe Ala
 260 265 270
 Ser Asn Pro Leu Asn Pro Lys Lys Leu Val Glu Phe Ile Asp Asp Lys
 275 280 285
 Lys Val Thr Phe Phe Gly Ser Thr Pro Val Phe Phe Asp Tyr Ile Leu
 290 295 300
 Lys Thr Ala Lys Lys Gln Asn Ser Cys Leu Glu Ser Leu Arg Leu Val
 305 310 315 320
 Val Ile Gly Gly Asp Ala Leu Lys Asp Thr Leu Tyr Glu Glu Thr Lys
 325 330 335
 Lys Leu Gln Pro Gln Ile Ala Leu Tyr Gln Gly Tyr Gly Ala Thr Glu
 340 345 350
 Cys Ser Pro Val Ile Ser Ile Thr Thr Lys Glu Ser Pro Arg Lys Ser
 355 360 365
 Glu Cys Val Gly Met Pro Ile Glu Gly Met Asp Val Leu Ile Ile Ser
 370 375 380
 Lys Glu Thr His Ile Pro Val Ser Ser Gly Glu Gln Gly Leu Ile Val
 385 390 395 400
 Val Arg Gly Asn Ser Val Phe Ser Gly Tyr Leu Gly Asn His Glu His
 405 410 415
 Gln Ser Phe Val Ser Leu Gly Gly Asp Gln Trp Tyr Leu Thr Gly Asp
 420 425 430
 Leu Gly His Ile Gly Pro Ser Gly Asp Leu Phe Leu Glu Gly Arg Leu
 435 440 445
 Ser Arg Phe Val Lys Ile Gly Gly Glu Met Val Ser Leu Glu Ala Leu
 450 455 460
 Glu Ser Ile Leu His Glu His Phe Thr Glu Asn Gln Asn Glu Asp Ala
 465 470 475 480
 Gly Ser Leu Val Val Cys Gly Ile Pro Gly Asp Lys Val Arg Leu Cys
 485 490 495
 Leu Phe Thr Thr Leu Ala Thr Thr Ile His Glu Val Asn Asp Ile Leu
 500 505 510
 Lys Ser Ala Glu Thr Ser Ser Ile Val Lys Ile Ser Tyr Val His Gln
 515 520 525
 Val Glu Ser Ile Pro Ile Leu Gly Ile Gly Lys Pro Asp Tyr Val Ser
 530 535 540
 Leu Asn Ala Leu Ala Val Ser Leu Phe Gly
 545 550

<210> 925
 <211> 376
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0923

<400> 925
 Val Cys Lys Glu Ser Phe Leu Thr Thr Ser Asp Val Ile Asp Phe Val
 1 5 10 15
 Thr Asn Asp Phe Leu Gly Phe Ala Arg Ser Pro Thr Ile Tyr Cys Glu
 20 25 30
 Val Ser Lys Arg Phe Gln Ile His Cys Gln Gln Phe Pro His Glu Lys
 35 40 45

Leu Gly Ile Arg Gly Ser Arg Leu Met Val Gly Pro Ser Ser Val Ile
 50 55 60
 Asp Asp Leu Glu Ser Lys Ile Ala Ser Tyr His Gly Ala Pro Asn Ala
 65 70 75 80
 Phe Ile Val Asn Ser Gly Tyr Met Ala Asn Leu Gly Leu Cys His His
 85 90 95
 Val Ser Arg Ser Thr Asp Val Leu Leu Trp Asp Glu Glu Val His Met
 100 105 110
 Ser Val Val His Ser Leu Ser Ala Ile Ser Gly Gln His His Thr Phe
 115 120 125
 His His Asn Asn Leu Glu His Leu Glu Ser Leu Leu Gln Cys Tyr Arg
 130 135 140
 Ile Ser Ser Lys Gly Arg Ile Phe Ile Phe Val Ser Ser Val Tyr Ser
 145 150 155 160
 Phe Arg Gly Thr Leu Ala Pro Leu Glu Gln Ile Ile Ala Leu Ser Lys
 165 170 175
 Lys Tyr His Ala His Leu Ile Val Asp Glu Ala His Ala Met Gly Ile
 180 185 190
 Phe Gly Asp Asp Gly Lys Gly Leu Cys His Ala Leu Gly Tyr Glu Asn
 195 200 205
 Phe Tyr Ala Val Leu Val Thr Tyr Gly Lys Ala Leu Gly Thr Met Gly
 210 215 220
 Ala Ser Leu Leu Thr Ser Ser Glu Val Lys Tyr Asp Leu Met Gln Asn
 225 230 235 240
 Ser Pro Pro Leu Arg Tyr Ser Thr Ser Leu Ser Pro His Thr Leu Ile
 245 250 255
 Ser Ile Gly Thr Ala Tyr Asp Phe Leu Ala Ser Glu Gly Glu Ile Ala
 260 265 270
 Arg Lys Gln Val Phe Lys Leu Lys Glu His Phe His Glu Cys Phe Asp
 275 280 285
 Ser His Ala Pro Gly Cys Val Gln Pro Ile Phe Leu Pro His Thr Cys
 290 295 300
 Leu Glu Glu Ala Ile Ser Val Leu Glu Thr Thr Gly Ile His Val Gly
 305 310 315 320
 Val Val Ala Phe Ala Lys His Pro Phe Leu Arg Val Asn Leu His Ala
 325 330 335
 Tyr Asn Thr Val Asp Glu Val Asn Leu Leu Ala Gln Val Met Lys Pro
 340 345 350
 Tyr Leu Glu Lys Ser Ser His Arg Val His Ile Asn His Glu Phe His
 355 360 365
 Leu Trp Arg Glu Leu Cys Gln His
 370 375

<210> 926

<211> 758

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0924

<400> 926

Lys Arg Phe Thr Ala Lys Thr Lys Ser Met Gly Tyr Ile Glu Ser Ser
 1 5 10 15
 Thr Phe Arg Leu Tyr Ala Glu Val Ile Val Gly Ser Asn Ile Asn Lys
 20 25 30
 Val Leu Asp Tyr Gly Val Pro Glu Asn Leu Glu His Ile Thr Lys Gly
 35 40 45
 Thr Ala Val Thr Ile Ser Leu Arg Gly Gly Lys Lys Val Gly Val Ile
 50 55 60

Tyr	Gln	Ile	Lys	Thr	Thr	Thr	Gln	Cys	Lys	Lys	Ile	Leu	Pro	Ile	Leu		
65					70					75					80		
Gly	Leu	Ser	Asp	Ser	Glu	Ile	Val	Leu	Pro	Gln	Asp	Leu	Leu	Asp	Leu		
				85					90					95			
Leu	Phe	Trp	Ile	Ser	Gln	Tyr	Tyr	Phe	Ala	Pro	Leu	Gly	Lys	Thr	Leu		
			100					105					110				
Lys	Leu	Phe	Leu	Pro	Ala	Ile	Ser	Ser	Asn	Val	Ile	Gln	Pro	Lys	Gln		
		115					120					125					
His	Tyr	Arg	Val	Val	Leu	Lys	Gln	Ser	Lys	Ala	Lys	Thr	Lys	Glu	Ile		
	130					135					140						
Leu	Ala	Lys	Leu	Glu	Val	Leu	His	Pro	Ser	Gln	Gly	Ala	Val	Leu	Lys		
145					150					155					160		
Ile	Leu	Leu	Gln	His	Ala	Ser	Pro	Pro	Gly	Leu	Ser	Ser	Leu	Met	Glu		
				165					170					175			
Thr	Ala	Lys	Val	Ser	Gln	Ser	Pro	Ile	His	Ser	Leu	Glu	Lys	Leu	Gly		
			180					185					190				
Ile	Leu	Asp	Ile	Val	Asp	Ala	Ala	Gln	Leu	Glu	Leu	Gln	Glu	Asp	Leu		
	195						200					205					
Leu	Thr	Phe	Phe	Pro	Pro	Ala	Pro	Lys	Asp	Leu	His	Pro	Glu	Gln	Gln		
210						215					220						
Ser	Ala	Ile	Asp	Lys	Ile	Phe	Ser	Ser	Leu	Lys	Thr	Ser	Gln	Phe	His		
225					230					235				240			
Thr	His	Leu	Leu	Phe	Gly	Ile	Thr	Gly	Ser	Gly	Lys	Thr	Glu	Ile	Tyr		
				245					250					255			
Leu	Arg	Ala	Thr	Ser	Glu	Ala	Leu	Lys	Gln	Gly	Lys	Ser	Thr	Ile	Leu		
			260					265					270				
Leu	Val	Pro	Glu	Ile	Ala	Leu	Thr	Val	Gln	Thr	Val	Ser	Leu	Phe	Lys		
	275						280					285					
Ala	Arg	Phe	Gly	Lys	Asp	Val	Gly	Val	Leu	His	His	Lys	Leu	Ser	Asp		
290						295					300						
Ser	Asp	Lys	Ser	Arg	Thr	Trp	Arg	Gln	Ala	Ser	Glu	Gly	Ser	Leu	Arg		
305					310					315				320			
Ile	Leu	Ile	Gly	Pro	Arg	Ser	Ala	Leu	Phe	Cys	Pro	Met	Lys	Asn	Leu		
				325					330					335			
Gly	Leu	Ile	Ile	Val	Asp	Glu	Glu	His	Asp	Pro	Ala	Tyr	Lys	Gln	Thr		
			340					345					350				
Glu	Ser	Pro	Pro	Cys	Tyr	His	Ala	Arg	Asp	Val	Ala	Val	Met	Arg	Gly		
	355						360					365					
Lys	Leu	Ala	His	Ala	Thr	Val	Val	Leu	Gly	Ser	Ala	Thr	Pro	Ser	Leu		
	370					375					380						
Glu	Ser	Tyr	Thr	Asn	Ala	Leu	Ser	Gly	Lys	Tyr	Val	Leu	Ser	Arg	Leu		
385					390					395				400			
Ser	Ser	Arg	Ala	Ala	Ala	Ala	His	Pro	Ala	Lys	Ile	Ser	Leu	Ile	Asn		
				405					410					415			
Met	Asn	Leu	Glu	Arg	Glu	Lys	Ser	Lys	Thr	Lys	Ile	Leu	Phe	Ser	Gln		
			420					425					430				
Pro	Val	Leu	Lys	Lys	Ile	Ala	Glu	Arg	Leu	Glu	Val	Gly	Glu	Gln	Val		
	435						440					445					
Leu	Ile	Phe	Phe	Asn	Arg	Arg	Gly	Tyr	His	Thr	Asn	Val	Ser	Cys	Thr		
	450					455					460						
Val	Cys	Lys	His	Thr	Leu	Lys	Cys	Pro	His	Cys	Asp	Met	Val	Leu	Thr		
465					470					475				480			
Phe	His	Lys	Tyr	Ala	Asn	Val	Leu	Leu	Cys	His	Leu	Cys	Asn	Ser	Ser		
				485					490					495			
Pro	Lys	Asp	Leu	Pro	Gln	Ser	Cys	Pro	Lys	Cys	Leu	Gly	Thr	Met	Thr		
			500					505					510				
Leu	Gln	Tyr	Arg	Gly	Ser	Gly	Thr	Glu	Lys	Ile	Glu	Lys	Ile	Leu	Gln		
		515					520					525					
Gln	Ile	Phe	Pro	Gln	Ile	Arg	Thr	Ile	Arg	Ile	Asp	Ser	Asp	Thr	Thr		
	530					535					540						

Lys Phe Lys Gly Ser His Glu Thr Leu Leu Arg Gln Phe Ala Thr Gly
 545 550 555 560
 Lys Ala Asp Val Leu Ile Gly Thr Gln Met Ile Ala Lys Gly Met Asn
 565 570 575
 Phe Ser Ala Val Thr Leu Ala Val Ile Leu Asn Gly Asp Ser Gly Leu
 580 585 590
 Tyr Ile Pro Asp Phe Arg Ala Ser Glu Gln Val Phe Gln Leu Ile Thr
 595 600 605
 Gln Val Ala Gly Arg Ser Gly Arg Ser His Leu Pro Gly Glu Ile Leu
 610 615 620
 Ile Gln Ser Phe Leu Pro Asp His Pro Thr Ile His Ser Ala Met Arg
 625 630 635 640
 Gln Asp Tyr Ser Ala Phe Tyr Ser Gln Glu Ile Thr Gly Arg Glu Leu
 645 650 655
 Cys Glu Tyr Pro Pro Phe Ile Arg Leu Ile Arg Cys Ile Phe Met Gly
 660 665 670
 Lys Cys Pro Lys Gln Thr Trp Glu Glu Ala His Arg Val His Asn Ile
 675 680 685
 Leu Lys Glu Gln Leu Glu Ser Thr Asn Pro Leu Met Pro Val Thr Pro
 690 695 700
 Cys Gly His Phe Lys Ile Lys Asp Thr Phe Arg Tyr Gln Phe Leu Ile
 705 710 715 720
 Lys Ser Ala Tyr Val Ile Pro Val Asn Lys Lys Leu His His Ala Leu
 725 730 735
 Met Leu Ala Lys Leu Ser Pro Lys Val Lys Phe Met Ile Asp Val Asp
 740 745 750
 Pro Met Thr Thr Phe Phe
 755

<210> 927
 <211> 230
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0925

<400> 927
 Lys His Trp Leu Phe Met Glu Asn Ser Gln Asn Phe His Asp Thr Leu
 1 5 10 15
 Cys Gln Leu Leu Asp Arg Tyr Ser Glu Glu Leu Tyr Pro Thr Leu Ala
 20 25 30
 Ser Leu Leu Asn Val Thr Leu Pro Asn Thr Ala Ile Ser Ala Ser Val
 35 40 45
 Ser Ser Ile Pro Glu Lys Ala Val Glu Val Pro Asn Ala Glu Pro Gln
 50 55 60
 Pro Ile Thr Pro Pro Pro Thr Asn Leu Ser Gln Glu Lys Thr Lys
 65 70 75 80
 Pro Ser Asp Trp Lys Cys Val Pro Leu His Pro Asp Leu Ser Gln Asn
 85 90 95
 Ala Ile Leu Lys Glu Lys Tyr Pro Ala Leu Lys Asp Cys Ser Leu Pro
 100 105 110
 Ala Pro Lys Ile Pro Cys Ser Ile Phe Val Tyr Glu Glu Asn Asn Glu
 115 120 125
 Glu Val Leu Phe Phe Asn Arg Leu Ala Lys Ile Leu Thr Gln Gln Leu
 130 135 140
 Phe Pro Thr Lys Leu Thr Leu Ile His Ala Lys Thr Asn Ile Phe Val
 145 150 155 160
 Asn Asn Pro Asn Phe Phe Leu Ala Leu Ala Pro Leu Asn Val Ile Arg
 165 170 175

Tyr Lys Ile Pro Thr Thr Asp Tyr His Gln Ser Leu Thr Gln Asn Gly
 180 185 190
 Cys Ile Phe Leu Pro Leu Tyr Ser Ser Leu Glu Tyr Glu Lys Asp Ser
 195 200 205
 Gln Leu Lys Arg Asn Leu Trp Ala Ile Leu Asn Arg Leu Pro Phe Ala
 210 215 220
 Tyr Thr Pro Lys Ser Ser
 225 230

<210> 928
 <211> 183
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0926

<400> 928
 Cys His His Thr Gln Gln Thr Tyr Ser Thr Arg Phe Phe Lys Asp Ser
 1 5 10 15
 Asp Met Lys Phe Trp Leu Gln Gly Cys Ala Phe Val Gly Cys Leu Leu
 20 25 30
 Leu Thr Leu Pro Cys Cys Ala Ala Arg Arg Arg Ala Ser Gly Glu Asn
 35 40 45
 Leu Gln Gln Thr Arg Pro Ile Ala Ala Ala Asn Leu Gln Trp Glu Ser
 50 55 60
 Tyr Ala Glu Ala Leu Glu His Ser Lys Gln Asp His Lys Pro Ile Cys
 65 70 75 80
 Leu Phe Phe Thr Gly Ser Asp Trp Cys Met Trp Cys Ile Lys Met Gln
 85 90 95
 Asp Gln Ile Leu Gln Ser Ser Glu Phe Lys His Phe Ala Gly Val His
 100 105 110
 Leu His Met Val Glu Val Asp Phe Pro Gln Lys Asn His Gln Pro Glu
 115 120 125
 Glu Gln Arg Gln Lys Asn Gln Glu Leu Lys Ala Gln Tyr Lys Val Thr
 130 135 140
 Gly Phe Pro Glu Leu Val Phe Ile Asp Ala Glu Gly Lys Gln Leu Ala
 145 150 155 160
 Arg Met Gly Phe Glu Pro Gly Gly Gly Ala Ala Tyr Val Ser Lys Val
 165 170 175
 Lys Ser Ala Leu Lys Leu Arg
 180

<210> 929
 <211> 383
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0927

<400> 929
 Asp Ser Cys Met Ile Pro Ser Pro Thr Pro Ile Asn Phe Arg Asp Asp
 1 5 10 15
 Thr Ile Leu Glu Thr Asp Pro Lys Pro Ser Leu Ile Met Phe Ser Ser
 20 25 30
 Lys Lys Thr Glu Ile Ala Ser Glu Arg Arg Lys Ala His Pro Thr Leu
 35 40 45
 Phe Lys Val Leu Gly Thr Ile Trp Asn Ile Val Lys Phe Ile Ile Ser
 50 55 60

Ile Ile Leu Phe Leu Pro Leu Ala Leu Leu Trp Val Leu Lys Lys Thr
 65 70 75 80
 Cys Gln Phe Phe Ile Leu Pro Ser Ser Ile Ile Ser Gln Ser Met Ser
 85 90 95
 Lys Thr Ala Val Ala Ile Arg Arg Met Thr Phe Leu Ser His Ile Lys
 100 105 110
 Gln Leu Leu Ser Leu Lys Glu Ile Ser Ala Ala Asp Arg Val Val Ile
 115 120 125
 Gln Tyr Asp Asp Leu Val Val Asp Ser Leu Ala Ile Lys Ile Pro His
 130 135 140
 Ala Leu Pro His Arg Trp Ile Leu Tyr Ser Gln Gly Asn Ser Gly Leu
 145 150 155 160
 Met Glu Asn Leu Phe Asp Arg Gly Asp Ser Ser Leu His Gln Leu Ala
 165 170 175
 Lys Ala Thr Gly Ser Asn Leu Leu Val Phe Asn Tyr Pro Gly Ile Met
 180 185 190
 Ser Ser Lys Gly Glu Ala Lys Arg Glu Asn Leu Val Lys Ser Tyr Gln
 195 200 205
 Ala Cys Val Arg Tyr Leu Arg Asp Glu Glu Thr Gly Pro Lys Ala Asn
 210 215 220
 Gln Ile Ile Ala Phe Gly Tyr Ser Leu Gly Thr Ser Val Gln Ala Ala
 225 230 235 240
 Ala Leu Asp Arg Glu Val Thr Asp Gly Ser Asp Gly Thr Ser Trp Ile
 245 250 255
 Val Val Lys Asp Arg Gly Pro Arg Ser Leu Ala Asp Val Ala Asn Gln
 260 265 270
 Ile Cys Lys Pro Ile Ala Ser Ala Ile Ile Lys Leu Val Gly Trp Asn
 275 280 285
 Ile Asp Ser Val Lys Pro Ser Glu Arg Leu Arg Cys Pro Glu Ile Phe
 290 295 300
 Ile Tyr Asn Ser Asn His Asp Gln Glu Leu Ile Ser Asp Gly Leu Phe
 305 310 315 320
 Glu Arg Glu Asn Cys Val Ala Thr Pro Phe Leu Glu Leu Pro Glu Val
 325 330 335
 Lys Thr Ser Gly Thr Lys Ile Pro Ile Pro Glu Arg Asp Leu Leu His
 340 345 350
 Leu Asn Pro Leu Ser Pro Asn Val Val Asp Arg Leu Ala Ala Val Ile
 355 360 365
 Ser Asn Tyr Leu Asp Ser Glu Asn Arg Lys Ser Gln Gln Pro Asp
 370 375 380

<210> 930
 <211> 384
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0928

<400> 930

Arg Arg Lys Asp Phe Ala Phe Thr Leu Leu Asn Leu Ser Asn Arg Ser
 1 5 10 15
 Asp Ile Leu Ser Gly Ile Phe Ser Asn Pro His Pro Val Ser Tyr Phe
 20 25 30
 Ser Ser Thr His Ala Lys Gln Leu Ser Asp Phe Ser Lys Lys His Pro
 35 40 45
 Ile Leu Thr Lys Ile Val Thr Ile Ile Val Lys Ile Phe Lys Leu Leu
 50 55 60
 Ile Gly Leu Ile Ile Pro Pro Leu Gly Ile Tyr Trp Leu Cys Gln Leu
 65 70 75 80

Val Cys Ser Leu Ala Leu Phe Pro Arg Ser Ser Met Leu Tyr Ser Val
 85 90 95
 Leu Lys Thr Cys Phe Lys Lys Tyr Arg Leu Glu Gln Glu Ile Gln Asp
 100 105 110
 Tyr Phe Val Lys Asn Leu Asp Pro Ser Phe Lys Asp Pro Ala Val Ser
 115 120 125
 Glu Ser Lys Arg Ile Thr Ile Gln Gln Asp His Leu Thr Ile Asp Thr
 130 135 140
 Leu Ala Ile His Phe Ser Thr Ala Arg Pro Lys Arg Trp Leu Leu Ile
 145 150 155 160
 Ser Leu Gly Ser Gly Asp Phe Leu Glu Asp Met Ile Gly Leu Lys Asp
 165 170 175
 Ser Leu Phe Leu Ser Trp Lys Glu Leu Ala Lys Leu Leu Gly Ala Asn
 180 185 190
 Ile Leu Ile Tyr Asn Tyr Pro Gly Val Lys Ser Ser Thr Gly Lys Leu
 195 200 205
 Asn Leu Glu Asn Leu Ala Thr Ala His Asn Leu Cys Ala Lys Tyr Leu
 210 215 220
 Gln Asp Lys Ile Gln Gly Pro Gly Ala Asn Glu Ile Ile Thr Tyr Gly
 225 230 235 240
 Tyr Ser Leu Gly Gly Val Val Gln Ser Ala Ala Leu Gln Lys Asn Pro
 245 250 255
 Phe Thr Asn Ser Glu Thr Ser Trp Val Ala Val Lys Asp Arg Ala Pro
 260 265 270
 His Ser Leu Pro Ala Ala Ala Asn Ser Phe Phe Gly Pro Ile Gly Lys
 275 280 285
 Leu Ile Ala Val Leu Ala Arg Trp Lys Met Asp Ala Glu Lys Asn Ser
 290 295 300
 Arg Glu Leu Pro Cys Pro Glu Ile Leu Val Tyr Ser Ala Asp Arg Phe
 305 310 315 320
 Arg Pro Ser Glu Val Gly Asp Asp Thr Ala Leu Leu Pro Glu Phe Thr
 325 330 335
 Leu Ala His Ala Ile Lys Arg Thr Pro Phe Ala Arg Ser Lys Lys Phe
 340 345 350
 Ile Gly Glu Val Asn Leu Leu His Ser Ser Pro Leu Lys His Pro Thr
 355 360 365
 Ile Gln Lys Leu Ala Glu Ala Ile Leu Glu Ser Leu Ser Arg Lys Asn
 370 375 380

<210> 931
 <211> 372
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0929

<400> 931
 Glu Lys Phe Met Ala Pro Ile His Gly Ser Asn Ala Phe Val Glu Asp
 1 5 10 15
 Ile Leu His Ser His Pro Ser Pro Gln Ala Thr Tyr Phe Ser Ser Thr
 20 25 30
 Arg Ala Gln Lys Leu His Glu Phe Lys Asp Arg His Pro Val Leu Thr
 35 40 45
 Arg Ile Ala Ser Val Ile Ile Lys Ile Phe Lys Val Leu Ile Gly Leu
 50 55 60
 Ile Ile Leu Pro Leu Gly Ile Tyr Trp Leu Cys Gln Thr Leu Cys Thr
 65 70 75 80
 Asn Ser Ile Leu Pro Ser Lys Asn Leu Leu Lys Ile Phe Lys Lys Gln
 85 90 95

Pro Asn Thr Lys Thr Leu Lys Thr Asn Tyr Leu His Ala Leu Gln Asp
 100 105 110
 Tyr Ser Ser Lys Asn Arg Val Ala Ser Met Arg Arg Val Pro Ile Leu
 115 120 125
 Gln Asp Asn Val Leu Ile Asp Thr Leu Glu Ile Cys Leu Ser Gln Ala
 130 135 140
 Pro Thr Asn Arg Trp Met Leu Ile Ser Leu Gly Ser Asp Cys Ser Leu
 145 150 155 160
 Glu Glu Ile Ala Cys Lys Glu Ile Phe Asp Ser Trp Gln Arg Phe Ala
 165 170 175
 Lys Leu Ile Gly Ala Asn Ile Leu Val Tyr Asn Tyr Pro Gly Val Met
 180 185 190
 Ser Ser Thr Gly Ser Ser Ser Leu Lys Asp Leu Ala Ser Ala His Asn
 195 200 205
 Ile Cys Thr Arg Tyr Leu Lys Asp Lys Glu Gln Gly Pro Gly Ala Lys
 210 215 220
 Glu Ile Ile Thr Tyr Gly Tyr Ser Leu Gly Gly Leu Ile Gln Ala Glu
 225 230 235 240
 Ala Leu Arg Asp Gln Lys Ile Val Ala Asn Asp Asp Thr Thr Trp Ile
 245 250 255
 Ala Val Lys Asp Arg Cys Pro Leu Phe Ile Ser Pro Glu Gly Phe His
 260 265 270
 Ser Cys Arg Arg Ile Gly Lys Leu Val Ala Arg Leu Phe Gly Trp Gly
 275 280 285
 Thr Lys Ala Val Glu Arg Ser Gln Asp Leu Pro Cys Leu Glu Ile Phe
 290 295 300
 Leu Tyr Pro Thr Asp Ser Leu Arg Arg Ser Thr Val Arg Gln Asn Lys
 305 310 315 320
 Leu Leu Ala Pro Glu Leu Thr Leu Ala His Ala Ile Lys Asn Ser Pro
 325 330 335
 Tyr Val Gln Asn Lys Glu Phe Ile Glu Val Arg Leu Ser Ser Asp Ile
 340 345 350
 Asp Pro Ile Asp Ser Lys Thr Arg Val Ala Leu Ala Thr Pro Ile Leu
 355 360 365
 Lys Lys Leu Ser
 370

<210> 932
 <211> 160
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0930

<400> 932
 Asn Lys Met Ser Glu Leu Ala Pro Cys Ser Thr Gly Leu Gln Met Val
 1 5 10 15
 Pro His Thr Gln Val His His Ala Leu Asp Thr Arg Arg Val Ile Leu
 20 25 30
 Thr Ile Ala Ala Cys Leu Ser Leu Ile Ala Gly Ile Val Leu Val Gly
 35 40 45
 Leu Gly Ala Ala Ala Ile Leu Pro Ser Leu Phe Gly Val Ile Gly Gly
 50 55 60
 Met Ile Leu Ile Leu Phe Ser Ser Ile Ala Leu Ile Tyr Leu Tyr Lys
 65 70 75 80
 Lys Thr Arg Glu Val Asp Gln Ile Ala Leu Glu Pro Leu Pro Glu Met
 85 90 95
 Ile Ser Lys Asp Gln Ser Ile Ile Asp Phe Val Lys Thr Arg Asp Tyr
 100 105 110

Ala Ser Leu Glu Lys Lys Ala Thr Phe Ala Tyr Thr His Thr His Tyr
 115 120 125
 Tyr Asp Gly Ser Met Val Phe Tyr Arg Glu Ile Pro Arg Phe Met Leu
 130 135 140
 Gly Ser Tyr Leu Ala Leu Arg Lys Asp Met Asp Arg Gln Ala Leu Phe
 145 150 155 160

<210> 933
 <211> 547
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0931

<400> 933
 Ile Asp Phe Arg Val Leu Gly Trp Lys Ser Asp Ile Tyr Thr Asn Ile
 1 5 10 15
 Leu Glu Glu Arg Met Thr Ala Arg Ala Glu Tyr Leu Asp His Glu Asp
 20 25 30
 Phe Leu Tyr Arg Ser His Lys Leu Gln Glu Leu Ser Glu Leu Gly Val
 35 40 45
 Val Leu Tyr Pro Tyr Glu Phe Pro Gly Val Phe Ser Cys Glu Asp Ile
 50 55 60
 Lys Lys Thr Phe Ala Ser Gln Glu Leu Gly Asn Ser Glu Ala Ala Met
 65 70 75 80
 Ser Arg Ser Thr Pro Arg Val Arg Phe Ala Gly Arg Leu Val Leu Phe
 85 90 95
 Arg Ala Met Gly Lys Asn Ala Phe Gly Gln Ile Leu Asp His Asn Gln
 100 105 110
 Thr Ile Gln Val Met Phe Asn Arg Glu Phe Thr Ser Val His Gly Leu
 115 120 125
 Ser Glu Asp Ala Glu Ile Thr Pro Ile Lys Phe Ile Glu Lys Lys Leu
 130 135 140
 Asp Leu Gly Asp Ile Leu Gly Ile Asp Gly Tyr Leu Phe Phe Thr His
 145 150 155 160
 Ser Gly Glu Leu Thr Val Leu Val Glu Thr Val Thr Leu Leu Cys Lys
 165 170 175
 Ser Leu Leu Ser Leu Pro Asp Lys His Ala Gly Leu Ser Asp Lys Glu
 180 185 190
 Val Arg Tyr Arg Lys Arg Trp Leu Asp Leu Ile Ser Ser Arg Glu Val
 195 200 205
 Ser Asp Thr Phe Val Lys Arg Ser Tyr Ile Ile Lys Leu Ile Arg Asn
 210 215 220
 Tyr Met Asp Ala His Gly Phe Leu Glu Val Glu Thr Pro Ile Leu Gln
 225 230 235 240
 Asn Ile Tyr Gly Gly Ala Glu Ala Lys Pro Phe Thr Thr Thr Met Glu
 245 250 255
 Ala Leu His Ser Glu Met Phe Leu Arg Ile Ser Leu Glu Ile Ala Leu
 260 265 270
 Lys Lys Ile Leu Val Gly Gly Ala Pro Arg Ile Tyr Glu Leu Gly Lys
 275 280 285
 Val Phe Arg Asn Glu Gly Ile Asp Arg Thr His Asn Pro Glu Phe Thr
 290 295 300
 Met Ile Glu Ala Tyr Ala Ala Tyr Met Asp Tyr Lys Glu Val Met Val
 305 310 315 320
 Phe Val Glu Asn Leu Val Glu His Leu Val Arg Ala Val Asn His Asp
 325 330 335
 Asn Thr Ser Leu Val Tyr Ser Tyr Trp Lys His Gly Pro Gln Glu Val
 340 345 350

Asp Phe Lys Ala Pro Trp Ile Arg Met Thr Met Lys Glu Ser Ile Ala
 355 360 365
 Thr Tyr Ala Gly Ile Asp Val Asp Val His Ser Asp Gln Lys Leu Lys
 370 375 380
 Glu Ile Leu Lys Lys Lys Thr Thr Phe Pro Glu Thr Ala Phe Ala Thr
 385 390 395 400
 Ala Ser Arg Gly Met Leu Ile Ala Ala Leu Phe Asp Glu Leu Val Ser
 405 410 415
 Asp Asn Leu Ile Ala Pro His His Ile Thr Asp His Pro Val Glu Thr
 420 425 430
 Thr Pro Leu Cys Lys Thr Leu Arg Ser Gly Asp Thr Ala Phe Val Glu
 435 440 445
 Arg Phe Glu Ser Phe Cys Leu Gly Lys Glu Leu Cys Asn Ala Tyr Ser
 450 455 460
 Glu Leu Asn Asp Pro Ile Arg Gln Arg Glu Leu Leu Glu Gln Gln His
 465 470 475 480
 Thr Lys Lys Glu Leu Leu Pro Asp Ser Glu Cys His Pro Ile Asp Glu
 485 490 495
 Glu Phe Leu Glu Ala Leu Cys Gln Gly Met Pro Pro Ala Gly Gly Phe
 500 505 510
 Gly Ile Gly Val Asp Arg Leu Val Met Ile Leu Thr Asn Ala Ala Ser
 515 520 525
 Ile Arg Asp Val Leu Tyr Phe Pro Val Met Arg Arg Phe Asp Ala Glu
 530 535 540
 Lys Thr Asn
 545

<210> 934
 <211> 480
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0932

<400> 934
 Val Lys Ser Asp Thr Val Met Ala Phe Ser His Ile Glu Gly Leu Tyr
 1 5 10 15
 Phe Tyr Asn Thr Ala Ser Gln Lys Lys Glu Leu Phe Phe Pro Asn His
 20 25 30
 Thr Pro Val Arg Leu Tyr Thr Cys Gly Pro Thr Val Tyr Asp Tyr Ala
 35 40 45
 His Ile Gly Asn Phe Arg Thr Tyr Val Phe Glu Asp Ile Leu Lys Arg
 50 55 60
 Thr Leu Val Phe Phe Gly Tyr Ser Val Thr His Val Met Asn Ile Thr
 65 70 75 80
 Asp Val Glu Asp Lys Thr Ile Ala Gly Ala Ser Lys Lys Asn Ile Pro
 85 90 95
 Leu Gln Glu Tyr Thr Gln Pro Tyr Thr Glu Ala Phe Phe Glu Asp Leu
 100 105 110
 Asp Thr Leu Asn Ile Ala Arg Ala Asp Phe Tyr Pro His Ala Thr His
 115 120 125
 Tyr Ile Pro Gln Met Ile Gln Ala Ile Thr Lys Leu Leu Glu Gln Gly
 130 135 140
 Ile Ala Tyr Ile Gly Gln Asp Ala Ser Val Tyr Phe Ser Leu Asn Arg
 145 150 155 160
 Phe Pro Asn Tyr Gly Lys Leu Ser His Leu Asp Leu Ser Ser Leu Arg
 165 170 175
 Cys Cys Ser Arg Ile Ser Ala Asp Glu Tyr Asp Lys Glu Asn Pro Ser
 180 185 190

Asp Phe Val Leu Trp Lys Ala Tyr Asn Pro Glu Arg Asp Gly Val Ile
 195 200 205
 Tyr Trp Glu Ser Pro Phe Gly Lys Gly Arg Pro Gly Trp His Leu Glu
 210 215 220
 Cys Ser Ile Met Ala Met Glu Leu Leu Gly Asp Ser Leu Asp Ile His
 225 230 235 240
 Ala Gly Gly Val Asp Asn Ile Phe Pro His His Glu Asn Glu Ile Ala
 245 250 255
 Gln Ser Glu Ala Leu Ser Gly Lys Pro Phe Ala Arg Tyr Trp Leu His
 260 265 270
 Ser Glu His Leu Leu Ile Asp Gly Lys Lys Met Ser Lys Ser Leu Gly
 275 280 285
 Asn Phe Leu Thr Leu Arg Asp Leu Leu His Gln Glu Phe Thr Gly Gln
 290 295 300
 Glu Val Arg Tyr Met Leu Leu Gln Ser His Tyr Arg Thr Gln Leu Asn
 305 310 315 320
 Phe Thr Glu Glu Ala Leu Leu Ala Cys Arg His Ala Leu Arg Arg Leu
 325 330 335
 Lys Asp Phe Val Ser Arg Leu Glu Gly Val Asp Leu Pro Gly Glu Ser
 340 345 350
 Pro Leu Pro Arg Thr Leu Asp Ser Ser Ser Gln Phe Ile Glu Ala Phe
 355 360 365
 Ser Arg Ala Leu Ala Asn Asp Leu Asn Val Ser Thr Gly Phe Ala Ser
 370 375 380
 Leu Phe Asp Phe Val His Glu Ile Asn Thr Leu Ile Asp Gln Gly His
 385 390 395 400
 Phe Ser Lys Ala Asp Ser Leu Tyr Ile Leu Asp Thr Leu Lys Lys Val
 405 410 415
 Asp Thr Val Leu Gly Val Leu Pro Leu Thr Thr Ser Val Cys Ile Pro
 420 425 430
 Glu Thr Val Met Gln Leu Val Ala Glu Arg Glu Glu Ala Arg Lys Thr
 435 440 445
 Lys Asn Trp Ala Met Ala Asp Thr Leu Arg Asp Glu Ile Leu Ala Ala
 450 455 460
 Gly Phe Leu Val Glu Asp Ser Lys Ser Gly Pro Lys Val Lys Pro Leu
 465 470 475 480

<210> 935
 <211> 349
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0933

<400> 935
 Pro Val Ile Leu Leu Gln Asn Ile Lys Arg Cys Ser Leu Lys Gln Leu
 1 5 10 15
 Lys Val Leu Ala Thr Leu Leu Leu Ser Leu Ser Leu Pro Thr Leu Glu
 20 25 30
 Ala Ala Glu Asn Arg Asp Ser Asp Ser Ile Val Trp His Leu Asp Tyr
 35 40 45
 Gln Glu Ala Leu Gln Lys Ser Lys Glu Ala Glu Leu Pro Leu Leu Val
 50 55 60
 Ile Phe Ser Gly Ser Asp Trp Asn Gly Pro Cys Met Lys Ile Arg Lys
 65 70 75 80
 Glu Val Leu Glu Ser Pro Glu Phe Ile Lys Arg Val Gln Gly Lys Phe
 85 90 95
 Val Cys Val Glu Val Glu Tyr Leu Lys His Arg Pro Gln Val Glu Asn
 100 105 110

Ile Arg Gln Gln Asn Leu Ala Leu Lys Ser Lys Phe Lys Ile Asn Glu
 115 120 125
 Leu Pro Cys Met Ile Leu Leu Ser His Glu Glu Arg Glu Ile Tyr Arg
 130 135 140
 Ile Gly Ser Phe Gly Asn Glu Thr Gly Ser Asn Leu Gly Asp Ser Leu
 145 150 155 160
 Cys His Ile Val Glu Ser Asp Ser Leu Leu Arg Arg Ala Phe Pro Met
 165 170 175
 Met Thr Ser Leu Ser Leu Ser Glu Leu Gln Arg Tyr Tyr Arg Leu Ala
 180 185 190
 Glu Glu Leu Ser His Lys Glu Phe Leu Lys His Ala Leu Glu Leu Gly
 195 200 205
 Val Arg Ser Asp Asp Tyr Phe Phe Leu Ser Glu Lys Phe Arg Leu Leu
 210 215 220
 Val Glu Val Gly Lys Met Asp Ser Glu Glu Cys Gln Arg Ile Lys Lys
 225 230 235 240
 Arg Leu Leu Asn Lys Asp Pro Lys Asn Glu Lys Gln Thr His Phe Thr
 245 250 255
 Val Ala Leu Ile Glu Phe Gln Glu Leu Ala Lys Arg Ser Arg Ala Gly
 260 265 270
 Val Arg Gln Asp Ala Ser Gln Val Ile Ala Pro Leu Glu Ser Tyr Ile
 275 280 285
 Ser Gln Phe Gly Gln Gln Asp Lys Asp Asn Leu Trp Arg Val Glu Met
 290 295 300
 Met Ile Ala Gln Phe Tyr Leu Asp Ser Asp Gln Trp His His Ala Leu
 305 310 315 320
 Gln His Ala Glu Val Ala Phe Glu Ala Ala Pro Asn Glu Val Arg Ser
 325 330 335
 His Ile Ser Arg Ser Leu Glu Tyr Ile Arg His Gln Ser
 340 345

<210> 936

<211> 141

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0934

<400> 936

Tyr Phe Val His Pro Leu Thr Leu Pro Lys Gln Ser Arg Val Leu Lys
 1 5 10 15
 Arg Lys Gln Phe Leu Tyr Ile Thr Arg Ser Gly Phe Cys Cys Arg Gly
 20 25 30
 Ser Gln Ala Thr Phe Tyr Val Val Pro Ser Arg His Pro Gly Thr Cys
 35 40 45
 Arg Met Gly Ile Thr Val Ser Lys Lys Phe Gly Lys Ala His Glu Arg
 50 55 60
 Asn Ser Phe Lys Arg Val Val Arg Glu Val Phe Arg His Val Arg His
 65 70 75 80
 Gln Leu Pro Asn Cys Gln Ile Val Val Phe Pro Lys Gly His Lys Gln
 85 90 95
 Arg Pro Val Phe Ser Lys Leu Leu Gln Asp Phe Ile Asn Gln Ile Pro
 100 105 110
 Glu Gly Leu His Arg Leu Gly Lys Thr Lys Ala Thr Thr Gly Gly Glu
 115 120 125
 Cys Thr Pro Lys Ser Glu Lys Cys Val Thr Ala Pro Arg
 130 135 140

<210> 937
 <211> 48
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0935

<400> 937
 Glu Asp Thr Val Lys Arg Thr Tyr Gln Pro Ser Lys Arg Lys Arg Arg
 1 5 10 15
 Asn Ser Val Gly Phe Arg Thr Arg Met Ala Thr Arg Asn Gly Arg Lys
 20 25 30
 Leu Leu Asn Arg Arg Arg Arg His Gly Arg His Ser Leu Val Asp Leu
 35 40 45

<210> 938
 <211> 47
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0936

<400> 938
 Tyr Leu Met Lys Val Ser Ser Ser Val Lys Ala Asp Pro Ser Lys Gly
 1 5 10 15
 Asp Lys Leu Val Arg Arg Lys Gly Arg Leu Tyr Val Ile Asn Lys Lys
 20 25 30
 Asp Pro Asn Arg Lys Gln Arg Gln Ala Gly Pro Ala Arg Lys Lys
 35 40 45

<210> 939
 <211> 104
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0937

<400> 939
 Val Lys Arg Met Ala Lys Lys Ser Ser Val Ala Arg Glu Ala Lys Arg
 1 5 10 15
 Arg Arg Leu Val Glu Ala Asn Phe Lys Lys Arg Ser Asp Leu Arg Lys
 20 25 30
 Ile Val Lys Ser Leu Ser Val Ser Glu Glu Lys Glu Asn Ala Arg
 35 40 45
 Ile Ser Leu Asn Lys Met Lys Arg Asp Thr Ser Pro Thr Arg Leu His
 50 55 60
 Asn Arg Cys Leu Leu Thr Gly Arg Pro Arg Gly Tyr Leu Arg Lys Phe
 65 70 75 80
 Ala Ile Ser Arg Ile Cys Phe Arg Gln Met Ala Ser Met Gly Glu Ile
 85 90 95
 Pro Gly Val Ile Lys Ala Ser Trp
 100

<210> 940
 <211> 169
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0938

<400> 940

Gln Thr Ile Asn Leu Ser Gly Thr Leu Arg Thr Met Leu Pro Ile Ser
1 5 10 15
Ile Leu Leu Phe Tyr Val Ile Leu Gly Cys Leu Ser Ala Tyr Ile Ala
20 25 30
Asp Lys Lys Lys Arg Asn Val Ile Gly Trp Phe Phe Ala Gly Ala Phe
35 40 45
Phe Gly Phe Ile Gly Leu Val Val Leu Leu Leu Leu Pro Ser Arg Arg
50 55 60
Asn Ala Leu Glu Lys Pro Gln Asn Asp Pro Phe Asp Asn Ser Asp Leu
65 70 75 80
Phe Asp Asp Leu Lys Lys Ser Leu Ala Gly Asn Asp Glu Ile Pro Ser
85 90 95
Ser Gly Asp Leu Gln Glu Ile Val Ile Asp Thr Glu Lys Trp Phe Tyr
100 105 110
Leu Asn Lys Asp Arg Glu Asn Val Gly Pro Ile Ser Phe Glu Glu Leu
115 120 125
Val Val Leu Leu Lys Gly Lys Thr Tyr Pro Glu Glu Ile Trp Val Trp
130 135 140
Lys Lys Gly Met Lys Asp Trp Gln Arg Val Lys Asp Val Pro Ser Leu
145 150 155 160
Gln Gln Ala Leu Lys Glu Ala Ser Lys
165

<210> 941

<211> 189

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0939

<400> 941

His Ile Asn Arg Trp Thr Ile Arg Leu Ser Leu Thr Leu Ile Ile Ser
1 5 10 15
Thr Val Leu Tyr Phe Phe Ser Glu Glu Ile Glu Leu Ile Gly Gly Gly
20 25 30
Lys Met Glu Lys Gln Asn Leu Lys Leu Asp Val Lys Glu Ile Glu Phe
35 40 45
Pro Glu Thr Val Phe Ser Arg Asp Ile Glu Thr Arg Val Ile Gln Val
50 55 60
Ile Ile Leu His Cys Leu Ala Lys Ile Asn Gly Val Ser Leu Leu Gly
65 70 75 80
Gly Asn Leu Ile Asp Ala Leu Phe Gly Arg Asp Ile Glu Arg Met Lys
85 90 95
Gly Ile Tyr Val Glu Gln Asp Ser Lys Asn His Leu Val Lys Val Arg
100 105 110
Val Glu Val Asn Val Asp Tyr Gly Val Ser Ile Pro Glu Lys Thr Glu
115 120 125
Glu Ile Gln Gly Cys Ile Val Ser Glu Ile Ser Glu Tyr Thr Gly Leu
130 135 140
His Val Ala Ala Val His Val Ile Ile Lys Gly Leu Thr Gln Pro Lys
145 150 155 160
Asp Arg Ile Asp Glu Glu Ile Glu Glu Glu Val Ser Val Gln Asp Leu
165 170 175
Pro Ser Pro Glu Asp Phe Leu Leu Glu Asn Ser Glu Gly
180 185

<210> 942
 <211> 612
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0940

<400> 942
 Asp Ala Thr Thr Asp Ile Ile Leu Val Met Arg Ile Glu Asp Phe Ser
 1 5 10 15
 Leu Lys Leu Ile Pro Ser Ser Pro Gly Val Tyr Leu Met Lys Asp Val
 20 25 30
 His Asp Gln Val Leu Tyr Ile Gly Lys Ala Lys Asn Leu Lys Asn Arg
 35 40 45
 Leu Ala Ser Tyr Phe His Glu Lys Gly Asp Ser Arg Glu Arg Ile Pro
 50 55 60
 Phe Leu Met Lys Lys Thr Ala Ser Ile Glu Thr Ile Val Val Ser Asn
 65 70 75 80
 Glu Thr Glu Ala Leu Leu Leu Glu Asn Asn Leu Ile Lys Gln His His
 85 90 95
 Pro Lys Tyr Asn Val Leu Leu Lys Asp Asp Lys Thr Phe Phe Cys Leu
 100 105 110
 Ala Ile Ser Leu Ser His Ser Trp Pro Lys Val Glu Ala Ile Arg Thr
 115 120 125
 Lys Ala Ile Thr Ser Ser Gln Arg Gln Leu Ile Phe Gly Pro Tyr Val
 130 135 140
 Ser Ala Glu Ala Cys His Thr Leu Leu Glu Val Ile Ser Gln Trp Phe
 145 150 155 160
 Pro Leu Arg Thr Cys Ser Asp Arg Glu Phe Ala Leu Arg Lys Arg Pro
 165 170 175
 Cys Ile Leu Tyr Asp Met Lys Arg Cys Leu Ala Pro Cys Val Gly Tyr
 180 185 190
 Cys Thr Pro Glu Glu Tyr Gln Gly Thr Leu Asp Lys Ala Ile Leu Phe
 195 200 205
 Leu Lys Gly Lys Ile Glu Glu Val Val Lys Asp Leu Glu Lys Val Ile
 210 215 220
 Gln Lys Ala Ser Asp Asn Leu Glu Phe Glu Gln Ala Ala Asn Tyr Tyr
 225 230 235 240
 Arg Thr Leu Ser Leu Ile Lys Gln Ala Met Ala Lys Gln Gln Val Glu
 245 250 255
 Lys Phe His Phe Gln Asn Ile Asp Ala Leu Gly Leu Tyr Arg His Lys
 260 265 270
 Gln Arg Thr Ile Leu Thr Leu Leu Thr Val Arg Ser Gly Lys Leu Leu
 275 280 285
 Gly Ala Arg His Phe Ser Phe Phe Glu Asn Ala Gln Glu Asp Gln Asp
 290 295 300
 Leu Leu Ser Ser Phe Ile Leu Gln Tyr Tyr Val Ser Gln Pro Tyr Ile
 305 310 315 320
 Pro Lys Glu Ile Leu Thr Pro Leu Pro Leu Glu Phe Pro Thr Leu Ser
 325 330 335
 Tyr Val Leu Asn Ala Glu Ser Pro Pro Arg Leu Arg Ser Pro Lys Thr
 340 345 350
 Gly Tyr Gly Lys Glu Leu Leu Asp Leu Ala Tyr Arg Asn Ala Lys Ala
 355 360 365
 Tyr Ala Ala Thr Thr Leu Pro Ser Ser Thr Leu Pro Tyr Gln Asp Phe
 370 375 380
 Gln Asn Ile Leu Arg Met Ser Gln Tyr Pro Tyr Arg Ile Glu Cys Tyr
 385 390 395 400
 Asp Asn Ala His Met Gln Gly Ala His Ala Thr Gly Val Tyr Ile Val
 405 410 415

Phe Glu Asn Asn Gly Phe Asp Pro Lys Gln Tyr Arg Thr Phe Ser Ile
 420 425 430
 Asp Ser Glu Lys Thr Gln Asn Asp Leu Ala Leu Leu Glu Glu Val Leu
 435 440 445
 Leu Arg Arg Phe His Ser Leu Thr Thr Ala Leu Pro Asp Met Ile Val
 450 455 460
 Val Asp Gly Gly Lys Thr His Tyr Asn Lys Thr Lys Lys Ile Ile Gln
 465 470 475 480
 Thr Leu Asn Leu Thr Gly Ile Gln Val Val Thr Ile Ala Lys Glu Lys
 485 490 495
 Ser Asn His Ser Arg Gly Leu Asn Lys Glu Lys Ile Phe Cys Glu Thr
 500 505 510
 Phe Pro Glu Gly Phe Ser Leu Pro Pro Thr Ser Asn Leu Leu Gln Phe
 515 520 525
 Phe Gln Ile Leu Arg Asp Glu Ala His Arg Phe Ala Ile Ser Lys His
 530 535 540
 Arg Lys Lys Arg Gly Lys Ala Leu Phe Glu Gln Glu Lys Ile Pro Gly
 545 550 555 560
 Ile Gly Glu Val Lys Arg Lys Arg Leu Leu Gln Lys Phe Lys Ser Trp
 565 570 575
 Lys Gln Val Met Leu Ser Ser Gln Glu Glu Leu Glu Ala Ile Pro Gly
 580 585 590
 Leu Thr Lys Lys Asp Ile Ala Val Leu Leu Ala Arg Gln Lys Asp Phe
 595 600 605
 Asn Lys Ser Asp
 610

<210> 943
 <211> 829
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0941

<400> 943
 Val Met Thr Glu Lys Lys Pro Thr Pro Met Met Glu Gln Trp His Gln
 1 5 10 15
 Cys Lys Glu Lys Ala Gly Asp Ser Val Leu Leu Phe Arg Met Gly Asp
 20 25 30
 Phe Tyr Glu Ala Phe Tyr Asp Asp Ala Val Leu Leu Ser Gln His Leu
 35 40 45
 Glu Leu Thr Leu Thr Gln Arg Gln Gly Ile Pro Met Ser Gly Ile Pro
 50 55 60
 Val Ser Thr Val Asp Thr Tyr Val Asp Arg Leu Ile Gly Lys Gly Phe
 65 70 75 80
 Lys Val Ala Val Ala Glu Gln Phe Gly Glu Pro Ala Lys Glu Lys Glu
 85 90 95
 Ser Lys Lys Ile Gly Pro Met Ala Arg Asp Ile Gln Arg Phe Val Thr
 100 105 110
 Pro Gly Thr Leu Leu Ser Ser Thr Leu Leu Gln Glu Lys Phe Asn Asn
 115 120 125
 Tyr Ile Val Ala Ile Asn Arg Ile Gly Ser Leu Phe Gly Phe Ala Cys
 130 135 140
 Leu Asp Leu Ser Thr Gly Ser Phe Phe Ile Glu Glu Cys Glu Asn Thr
 145 150 155 160
 Lys Glu Leu Val Asp Glu Ile Cys Arg Leu Ala Pro Ser Glu Val Leu
 165 170 175
 Ser Cys Asn Lys Phe Tyr Asn Lys Glu Thr Ala Ile Val Met Gln Leu
 180 185 190

Gln Gln His Leu Lys Leu Thr Leu Ser Thr Tyr Ala Asp Trp Ala Phe
 195 200 205
 Glu His Lys Phe Ala Ser Gln Lys Leu Thr Thr His Phe Gln Val Ala
 210 215 220
 Ser Leu Asp Gly Phe Gly Leu Lys Gly Leu Val Pro Ala Ile Asn Ala
 225 230 235 240
 Ala Gly Gly Leu Leu Ser Tyr Ile Gln Asp Lys Leu Leu Leu Pro Thr
 245 250 255
 Lys His Ile Ala Ile Pro Gln Thr Arg Gly Lys Gln Gln Lys Leu Leu
 260 265 270
 Ile Asp Thr Ala Ser Gln Val Asn Leu Glu Leu Leu Ala Pro Leu Asn
 275 280 285
 Asp Pro Gln Gly Lys Asn Ser Leu Leu Arg Ile Met Asp His Thr Ser
 290 295 300
 Thr Pro Met Gly Gly Arg Leu Leu Arg Gln Ile Leu Ile Ser Pro Phe
 305 310 315 320
 Tyr Asn Pro Lys Glu Ile Leu Val Arg Gln Asp Ala Val Glu Phe Phe
 325 330 335
 Leu Arg Gln Val Thr Leu Arg Lys Asn Ile Lys Thr Tyr Leu Cys Gln
 340 345 350
 Val Arg Asp Ile Glu Arg Leu Met Thr Lys Val Thr Thr Gly Leu Ala
 355 360 365
 Gly Pro Arg Asp Ile Gly Thr Leu Arg Asp Ser Phe Ser Ala Gly Ala
 370 375 380
 Gln Ile Tyr Glu Gln Leu Ala Ser Ala Thr Leu Pro Glu Phe Phe Ile
 385 390 395 400
 Asp Lys Cys Ser Leu Asp Thr Lys Leu Ala Ser Leu Ile Ala Leu Leu
 405 410 415
 Ser Lys Ser Leu Asn Gly Asp Leu Pro Leu Arg Val Ser Asp Gly Asn
 420 425 430
 Ile Phe Val Asp Glu Phe His Asn Asp Leu Lys Arg Leu Arg His Asn
 435 440 445
 Gln Glu His Ser Gln Glu Trp Ile Trp Glu Tyr Gln Glu Arg Ile Arg
 450 455 460
 Lys Glu Thr Gly Ile Lys Lys Leu Lys Ile Cys Phe Ala Gln Ala Leu
 465 470 475 480
 Gly Tyr Tyr Ile Glu Val Ser Ser Glu Phe Ala Pro Gln Leu Pro Lys
 485 490 495
 Asp Phe Ile Arg Arg Gln Ser Arg Leu His Ala Glu Arg Phe Thr Thr
 500 505 510
 Ile Glu Leu Gln Gln Phe Gln Asp Met Ser Asn Ile Ser Glu Lys
 515 520 525
 Leu Gln Thr Leu Glu Thr Gln Phe Phe Lys Asp Leu Cys Ser His Ile
 530 535 540
 Leu Gln Leu Arg Thr Glu Ile Leu Ala Leu Ser Gln Ser Leu Ala Asp
 545 550 555 560
 Leu Asp Tyr Ile Ile Ser Leu Ala Asp Leu Ala His Ala Gln Gly Tyr
 565 570 575
 Cys Arg Pro His Val Asp Met Ser Asp Thr Leu Cys Ile Tyr Arg Gly
 580 585 590
 Cys His Pro Val Ala Lys Thr Leu Val Asp Thr Gly Lys Phe Ile Pro
 595 600 605
 Asn Asp Thr Glu Met Arg Gly Ser Gln Thr Arg Met Ile Leu Leu Thr
 610 615 620
 Gly Pro Asn Met Ala Gly Lys Ser Thr Tyr Ile Arg Gln Ile Ala Leu
 625 630 635 640
 Leu Val Ile Met Ala Gln Met Gly Ser Tyr Ile Pro Ala Lys Ser Ala
 645 650 655
 His Ile Gly Val Ile Asp Lys Ile Phe Thr Arg Ile Gly Ala Gly Asp
 660 665 670

Asn Leu Ser Lys Gly Met Ser Thr Phe Met Val Glu Met Ala Glu Thr
 675 680 685
 Ala Asn Ile Leu His Asn Ala Thr Asp Arg Ser Leu Val Ile Leu Asp
 690 695 700
 Glu Val Gly Arg Gly Thr Ser Thr Tyr Asp Gly Leu Ala Ile Ala Gln
 705 710 715 720
 Ala Val Val Glu Tyr Leu Leu Phe Thr Asp Lys Lys Lys Ala Lys Thr
 725 730 735
 Leu Phe Ala Thr His Tyr Lys Glu Leu Thr Thr Leu Glu Asp His Cys
 740 745 750
 Pro His Val Glu Asn Phe His Ala Gly Val Lys Asp Lys Ala Gly Gln
 755 760 765
 Pro Val Phe Leu Tyr Glu Ile Leu Lys Gly His Ser Gln Lys Ser Phe
 770 775 780
 Gly Ile His Val Ala Arg Leu Ala Gly Phe Pro Leu Cys Val Val Ser
 785 790 795 800
 Arg Ala Gln Gln Ile Leu Arg Gln Leu Glu Gly Pro Glu Ser Ile Thr
 805 810 815
 Arg Pro Ala Gln Asp Lys Met Gln Gln Leu Thr Leu Phe
 820 825

<210> 944
 <211> 600
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0942

<400> 944
 Asn Cys Ser Ile Thr Lys Leu Arg Thr Ala Met Tyr Thr Glu Glu Ser
 1 5 10 15
 Leu Asp Asn Leu Arg His Ser Ile Asp Ile Val Asp Val Leu Ser Glu
 20 25 30
 His Ile His Leu Lys Arg Ser Gly Ala Thr Tyr Lys Ala Cys Cys Pro
 35 40 45
 Phe His Thr Glu Lys Thr Pro Ser Phe Ile Val Asn Pro Ala Gly Ala
 50 55 60
 His Tyr His Cys Phe Gly Cys Gly Ala His Gly Asp Ala Ile Gly Phe
 65 70 75 80
 Leu Met Gln His Leu Gly Tyr Ser Phe Thr Glu Ala Ile Leu Val Leu
 85 90 95
 Ser Lys Lys Phe Gln Val Asp Leu Val Leu Gln Pro Lys Asp Ser Gly
 100 105 110
 Tyr Thr Pro Pro Gln Gly Leu Lys Glu Glu Leu Arg His Ile Asn Ser
 115 120 125
 Glu Ala Glu Thr Phe Phe Arg Tyr Cys Leu Tyr His Leu Pro Glu Ala
 130 135 140
 Arg His Ala Leu Gln Tyr Leu Tyr His Arg Gly Phe Ser Pro Asp Thr
 145 150 155 160
 Ile Asp Arg Phe His Leu Gly Tyr Gly Pro Glu Gln Ser Leu Phe Leu
 165 170 175
 Gln Ala Met Glu Glu Arg Lys Ile Ser Gln Glu Gln Leu His Thr Ala
 180 185 190
 Gly Phe Phe Gly Asn Lys Trp Phe Leu Phe Ala Arg Arg Ile Ile Phe
 195 200 205
 Pro Val His Asp Ala Leu Gly His Thr Ile Gly Phe Ser Ala Arg Lys
 210 215 220
 Phe Leu Glu Asn Ser Gln Gly Gly Lys Tyr Val Asn Thr Pro Glu Thr
 225 230 235 240

Pro Ile Phe Lys Lys Ser Arg Ile Leu Phe Gly Leu Asn Phe Ser Arg
 245 250 255
 Arg Arg Ile Ala Lys Glu Lys Lys Val Ile Leu Val Glu Gly Gln Ala
 260 265 270
 Asp Cys Leu Gln Met Ile Asp Ser Gly Phe Asn Cys Thr Val Ala Ala
 275 280 285
 Gln Gly Thr Ala Phe Thr Glu Glu His Val Lys Glu Leu Ser Lys Leu
 290 295 300
 Gly Val Leu Lys Val Phe Leu Leu Phe Asp Ser Asp Glu Ala Gly Asn
 305 310 315 320
 Lys Ala Ala Leu Arg Val Gly Asp Leu Cys Gln Thr Ala Gln Met Ser
 325 330 335
 Val Phe Val Cys Lys Leu Pro Gln Gly His Asp Pro Asp Ser Phe Leu
 340 345 350
 Met Gln Arg Gly Ser Ser Gly Leu Ile Ala Leu Leu Glu Gln Ser Gln
 355 360 365
 Asp Tyr Leu Thr Phe Leu Ile Ser Glu Lys Met Ser Ser Tyr Pro Lys
 370 375 380
 Phe Gly Pro Arg Glu Lys Ala Leu Leu Val Glu Glu Ala Ile Arg Gln
 385 390 395 400
 Ile Lys His Trp Gly Ser Pro Ile Leu Val Tyr Glu His Leu Lys Gln
 405 410 415
 Leu Ala Ser Leu Met Met Val Pro Glu Asp Met Val Leu Ser Leu Ala
 420 425 430
 Asn Pro Gln Val Thr Ala Glu Pro Gln Asn Ile Pro Ile Lys Gln Lys
 435 440 445
 Val Pro Lys Ile His Pro His Ile Val Met Glu Thr Asp Ile Leu Arg
 450 455 460
 Cys Met Leu Phe Cys Gly Ser Asn Thr Lys Ile Leu Tyr Thr Ala Gln
 465 470 475 480
 Phe Tyr Phe Val Pro Glu Asp Phe Lys His Pro Glu Cys Arg Lys Leu
 485 490 495
 Phe Ala Phe Met Ile Ser Tyr Tyr Glu Lys Tyr Arg Lys Asn Val Pro
 500 505 510
 Phe Asp Glu Ala Cys Gln Val Leu Ser Asp Ser Gln Ile Leu Gln Leu
 515 520 525
 Leu Thr Lys Arg Arg Leu Asn Thr Glu Ala Leu Asp Thr Ile Phe Val
 530 535 540
 Gln Ser Leu Gln Lys Met Ala Asp Arg Arg Trp Arg Glu Gln Cys Lys
 545 550 555 560
 Pro Leu Ser Leu Asn Gln Asn Ile Gln Asp Lys Lys Leu Glu Ile Leu
 565 570 575
 Glu Asp Tyr Val Gln Leu Arg Lys Asp Arg Thr Ile Ile Thr Leu Leu
 580 585 590
 Asp Pro Glu Ser Glu Leu Ile Pro
 595 600

<210> 945

<211> 89

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0943

<400> 945

Phe Phe Met Lys Ser Phe Lys Phe Leu Leu Pro Phe Leu Ser Val Ile
 1 5 10 15
 Leu Cys Cys Gly Asn Leu Leu Ser Ser Pro Arg Ser Arg Ala Ile Ser
 20 25 30

Val Thr Glu Ser Ile Gly Met Ser Ala Val Lys Thr Leu Val Leu Ser
 35 40 45
 Glu Lys Ala His Glu Phe Leu Glu Gly Ile Gly Tyr Gly Val Gly Ala
 50 55 60
 Ser Ser Ile Leu Arg Asp Trp Gln Thr Gln Gln Trp Leu Glu Ile Glu
 65 70 75 80
 Ser Leu Leu Ala Gln Asn Glu Val Met
 85

<210> 946
 <211> 165
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0944

<400> 946
 Ile Lys Ile Met Met His Arg Tyr Phe Ile Pro Leu Leu Ala Leu Leu
 1 5 10 15
 Ile Phe Ser Pro Ser Leu Val Arg Ala Glu Leu Gln Pro Ser Glu Asn
 20 25 30
 Arg Lys Gly Gly Trp Pro Thr Gln Leu Ser Cys Ala Glu Gly Ser Gln
 35 40 45
 Leu Phe Cys Lys Phe Glu Ala Ala Tyr Asn Asn Ala Ile Glu Glu Gly
 50 55 60
 Lys Pro Gly Ile Leu Val Phe Phe Ser Glu Arg Pro Thr Pro Glu Phe
 65 70 75 80
 Ala Asp Leu Thr Asn Gly Ser Phe Ser Leu Ser Thr Pro Ile Ala Lys
 85 90 95
 Gly Phe Asn Val Val Val Leu Cys Pro Gly Leu Ile Ser Pro Leu Asp
 100 105 110
 Phe Phe His Lys Met Asp Pro Val Ile Leu Tyr Met Gly Ser Phe Leu
 115 120 125
 Glu Met Phe Pro Glu Val Glu Ala Val Ser Gly Pro Arg Leu Cys Tyr
 130 135 140
 Ile Leu Ile Asp Glu Gln Gly Gly Ala Gln Cys Gln Ala Val Leu Pro
 145 150 155 160
 Leu Glu Thr Lys Asn
 165

<210> 947
 <211> 220
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0945

<400> 947
 Ser Ile Phe Lys Asn Lys Ile Leu Pro Ser Tyr Phe Gly His Asn Phe
 1 5 10 15
 Asp Gln Leu Arg Arg His Tyr Met Arg Ile Ala Leu Ser Leu Leu Ser
 20 25 30
 Leu Leu Met Ile Phe Pro Ile Phe Gly Glu Glu Ser Arg Pro Gly Ser
 35 40 45
 Glu Asp Gly Asn Ser Asn Thr Gln Glu Ile Val Gly Ser Gln Asp Thr
 50 55 60
 Gln Val Cys Leu Tyr His Ser Tyr Glu Gln Gly Leu Gln Ala Ser Arg
 65 70 75 80

Ile Glu Gly Lys Pro Leu Val Ile Val Val Leu Cys Asn Ser Gly Asp
 85 90 95
 Asp Gly Gln Ala Cys Thr Ile Gly Leu Ser Glu Thr Cys Glu Glu Val
 100 105 110
 Leu Ser Val Leu Ser Gly Ser Ile Phe Ser Glu Leu Ala Asn Phe Val
 115 120 125
 Val Leu Val Pro Ser Gly Val Asn Pro Leu Ile Tyr Pro Pro Ile Glu
 130 135 140
 Asp Pro Ile Leu Ala Glu Ile Val Lys Phe Lys Glu Leu Phe Lys Asp
 145 150 155 160
 Glu Ser Phe Pro Thr Gly Leu Ser Ile Ile Val Val Gly Val Thr Pro
 165 170 175
 Glu Gly Pro Gly Asp Ile Ile Glu Val Ser Pro Val Ser Leu Thr Val
 180 185 190
 Glu Glu Glu Glu Thr Leu Pro Ser Glu Gln Thr Thr Glu Val Glu Ser
 195 200 205
 Thr Ser Glu Leu Gln Ser Glu Asp Pro Ala Ile Ala
 210 215 220

<210> 948
 <211> 1024
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0946

<400> 948
 Gly Glu Cys Gln Lys Lys Lys Cys Tyr Thr Leu Glu Ser Phe Val Ser
 1 5 10 15
 Glu His Pro Leu Thr Leu Gln Ser Met Ile Ala Thr Ile Leu Arg Phe
 20 25 30
 Trp Ser Glu Gln Gly Cys Val Ile His Gln Gly Tyr Asp Leu Glu Val
 35 40 45
 Gly Ala Gly Thr Phe Asn Pro Ala Thr Phe Leu Arg Ala Leu Gly Pro
 50 55 60
 Glu Pro Tyr Lys Ala Ala Tyr Val Glu Pro Ser Arg Arg Pro Gln Asp
 65 70 75 80
 Gly Arg Tyr Gly Val His Pro Asn Arg Leu Gln Asn Tyr His Gln Leu
 85 90 95
 Gln Val Ile Leu Lys Pro Val Pro Glu Asn Phe Leu Ser Leu Tyr Thr
 100 105 110
 Glu Ser Leu Arg Ala Ile Gly Leu Asp Leu Arg Asp His Asp Ile Arg
 115 120 125
 Phe Ile His Asp Asp Trp Glu Asn Pro Thr Ile Gly Ala Trp Gly Leu
 130 135 140
 Gly Trp Glu Val Trp Leu Asn Gly Met Glu Ile Thr Gln Leu Thr Tyr
 145 150 155 160
 Phe Gln Ala Ile Gly Ser Lys Pro Leu Asp Thr Ile Ser Gly Glu Ile
 165 170 175
 Thr Tyr Gly Ile Glu Arg Ile Ala Met Tyr Leu Gln Lys Lys Ile Ser
 180 185 190
 Ile Tyr Asp Val Leu Trp Asn Asp Thr Leu Thr Tyr Gly Gln Ile Thr
 195 200 205
 Gln Ala Ser Glu Lys Ala Trp Ser Glu Tyr Asn Phe Asp Tyr Ala Asn
 210 215 220
 Thr Glu Met Trp Phe Lys His Phe Glu Asp Phe Ala Glu Glu Ala Leu
 225 230 235 240
 Arg Thr Leu Lys Asn Gly Leu Ser Val Pro Ala Tyr Asp Phe Val Ile
 245 250 255

Lys Ala Ser His Ala Phe Asn Ile Leu Asp Ala Arg Gly Thr Ile Ser
 260 265 270
 Val Thr Glu Arg Thr Arg Tyr Ile Ala Arg Ile Arg Gln Leu Thr Arg
 275 280 285
 Leu Val Ala Asp Ser Tyr Val Glu Trp Arg Ala Ser Leu Asn Tyr Pro
 290 295 300
 Leu Leu Ser Leu Ser Ser Thr Ser Glu Pro Lys Glu Thr Ser Glu Ser
 305 310 315 320
 Val Val Pro Met Ile Ser Ser Thr Glu Asp Leu Leu Glu Ile Gly
 325 330 335
 Ser Glu Glu Leu Pro Ala Thr Phe Val Pro Ile Gly Ile Gln Gln Leu
 340 345 350
 Glu Ser Leu Ala Arg Gln Val Leu Thr Asp His Asn Ile Val Tyr Glu
 355 360 365
 Gly Leu Glu Val Leu Gly Ser Pro Arg Arg Leu Ala Leu Leu Val Lys
 370 375 380
 Asn Val Ala Pro Glu Val Val Gln Lys Ala Phe Glu Lys Lys Gly Pro
 385 390 395 400
 Met Leu Thr Ser Leu Phe Ser Pro Asp Gly Asp Val Ser Pro Gln Gly
 405 410 415
 Gln Gln Phe Phe Ala Ser Gln Gly Val Asp Ile Ser His Tyr Gln Asp
 420 425 430
 Leu Ser Arg His Ala Ser Leu Ala Ile Arg Thr Val Asn Gly Ser Glu
 435 440 445
 Tyr Leu Phe Leu Leu His Pro Glu Ile Arg Leu Arg Thr Ala Asp Ile
 450 455 460
 Leu Met Gln Glu Leu Pro Leu Leu Ile Gln Arg Met Lys Phe Pro Lys
 465 470 475 480
 Lys Met Val Trp Asp Asn Ser Gly Val Glu Tyr Ala Arg Pro Ile Arg
 485 490 495
 Trp Leu Val Ala Leu Tyr Gly Glu His Ile Leu Pro Ile Thr Leu Gly
 500 505 510
 Thr Ile Ile Ala Ser Arg Asn Ser Phe Gly His Arg Gln Leu Asp Pro
 515 520 525
 Arg Lys Ile Ser Ile Ser Ser Pro Gln Asp Tyr Val Glu Thr Leu Arg
 530 535 540
 Gln Ala Cys Val Val Val Ser Gln Lys Glu Arg Arg Met Ile Ile Glu
 545 550 555 560
 Gln Gly Leu Arg Ala His Ser Ser Asp Thr Ile Ser Ala Ile Pro Leu
 565 570 575
 Pro Arg Leu Ile Glu Glu Ala Thr Phe Leu Ser Glu His Pro Phe Val
 580 585 590
 Ser Cys Gly Gln Phe Ser Glu Gln Phe Cys Ala Leu Pro Lys Glu Leu
 595 600 605
 Leu Ile Ala Glu Met Val Asn His Gln Lys Tyr Phe Pro Thr His Glu
 610 615 620
 Thr Ser Ser Gly Ala Ile Ser Asn Phe Phe Ile Val Val Cys Asp Asn
 625 630 635 640
 Ser Pro Asn Asp Thr Ile Ile Glu Gly Asn Glu Lys Ala Leu Thr Pro
 645 650 655
 Arg Leu Thr Asp Gly Glu Phe Leu Phe Lys Gln Asp Leu Gln Thr Pro
 660 665 670
 Leu Thr Thr Phe Ile Glu Lys Leu Lys Ser Val Thr Tyr Phe Glu Ala
 675 680 685
 Leu Gly Ser Leu Tyr Asp Lys Val Glu Arg Leu Lys Ala His Gln Arg
 690 695 700
 Val Phe Ser Thr Phe Ser Ser Leu Ala Ala Ser Glu Asp Leu Asp Ile
 705 710 715 720
 Ala Ile Gln Tyr Cys Lys Ala Asp Leu Val Ser Ala Val Val Asn Glu
 725 730 735

Phe Pro Glu Leu Gln Gly Ile Met Gly Glu Tyr Tyr Leu Lys His Ala
 740 745 750
 Asn Leu Pro Thr Ala Ser Ala Val Ala Val Gly Glu His Leu Arg His
 755 760 765
 Ile Thr Met Gly Gln Lys Leu Ser Thr Ile Gly Thr Leu Leu Ser Leu
 770 775 780
 Leu Asp Arg Leu Asp Asn Leu Leu Ala Cys Phe Ile Leu Gly Leu Lys
 785 790 795 800
 Pro Thr Ser Ser His Asp Pro Tyr Ala Leu Arg Arg Gln Ser Leu Glu
 805 810 815
 Val Leu Thr Leu Val Ser Ala Ser Arg Leu Pro Ile Asp Leu Ala Ser
 820 825 830
 Leu Leu Asp Arg Leu Ala Asp His Phe Pro Ser Thr Ile Glu Glu Lys
 835 840 845
 Val Trp Asp Lys Ser Lys Thr Ile His Glu Ile Leu Glu Phe Ile Trp
 850 855 860
 Gly Arg Leu Lys Thr Phe Met Gly Ser Leu Glu Phe Arg Lys Asp Glu
 865 870 875 880
 Ile Ala Ala Val Leu Ile Asp Ser Ala Thr Lys Asn Pro Ile Glu Ile
 885 890 895
 Leu Asp Thr Ala Glu Ala Leu Gln Leu Lys Glu Glu His Thr Glu
 900 905 910
 Lys Leu Ala Val Ile Thr Thr Thr His Asn Arg Leu Lys Lys Ile Leu
 915 920 925
 Ser Ser Leu Lys Leu Ser Met Thr Ser Ser Pro Ile Glu Val Leu Gly
 930 935 940
 Asp Arg Glu Ser Asn Phe Lys Gln Val Leu Asp Ala Phe Pro Gly Phe
 945 950 955 960
 Pro Lys Glu Thr Ser Ala His Ala Phe Leu Glu Tyr Phe Leu Ser Leu
 965 970 975
 Ala Asp Leu Ser Asn Asp Ile Gln Asp Phe Leu Asn Thr Val His Ile
 980 985 990
 Ala Asn Asp Asp Gly Ala Ile Arg Asn Leu Arg Ile Ser Leu Leu Leu
 995 1000 1005
 Thr Ala Met Asp Lys Phe Ser Leu Cys His Trp Glu Ser Val Ala Val
 1010 1015 1020

<210> 949
 <211> 209
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0947

<400> 949
 Gly Ser Arg Val Gly Leu Pro Asn Tyr Ile Thr Phe Ser Arg Leu Phe
 1 5 10 15
 Ile Thr Pro Ile Phe Met Ile Leu Tyr Leu Lys Gly Lys Trp Phe Gly
 20 25 30
 Ile Thr Pro Val Val Leu Pro Tyr Val Leu Leu Ala Leu Leu Ala Ile
 35 40 45
 Ser Glu Leu Thr Asp Ala Ile Asp Gly Tyr Val Ala Arg Lys Phe Ser
 50 55 60
 Gln Val Thr Asp Leu Gly Lys Leu Leu Asp Pro Met Ala Asp Ser Ile
 65 70 75 80
 Tyr Arg Ile Ser Ile Tyr Leu Thr Phe Thr Gln Pro Pro Val Asn Leu
 85 90 95
 Pro Leu Leu Leu Val Phe Ile Phe Leu Ala Arg Asp Ser Val Ile Ser
 100 105 110

Thr Leu Arg Thr Val Cys Ala Phe Arg Gly Arg Val Val Ala Ala Arg
 115 120 125
 Ala Ser Gly Lys Leu Lys Ala Ile Leu Gln Gly Val Ser Phe Phe Leu
 130 135 140
 Ile Leu Leu Val Met Ile Pro His Ser Leu Gly Leu Leu Ser Gln Asn
 145 150 155 160
 Gly Leu Glu Ile Phe Ala Ser Val Thr Val Ser Ile Ile Ala Val Tyr
 165 170 175
 Ser Ile Ala Ser Gly Ile Glu Tyr Phe Trp Met Asn Lys Asn Phe Leu
 180 185 190
 Ser Gln Arg Ala Lys Thr Lys Asp Ser Glu Lys Asn His Glu Ser Lys
 195 200 205
 Asp

<210> 950
 <211> 479
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0948

<400> 950
 Gly Glu Ser Met Arg Ile Val Gln Val Ala Val Glu Phe Thr Pro Ile
 1 5 10 15
 Val Lys Val Gly Gly Leu Gly Asp Ala Val Ala Ser Leu Ser Lys Glu
 20 25 30
 Leu Ala Lys Gln Asn Asp Val Glu Val Leu Leu Pro His Tyr Pro Leu
 35 40 45
 Ile Ser Lys Phe Ser Ser Ser Gln Val Leu Ser Glu Arg Ser Phe Tyr
 50 55 60
 Tyr Glu Phe Leu Gly Lys Gln Gln Ala Ser Ala Ile Ser Tyr Ser Tyr
 65 70 75 80
 Glu Gly Leu Thr Leu Thr Ile Ile Thr Leu Asp Ser Gln Ile Glu Leu
 85 90 95
 Phe Ser Thr Thr Ser Val Tyr Ser Glu Asn Asn Val Val Arg Phe Ser
 100 105 110
 Ala Phe Ala Ala Ala Ala Ala Ala Tyr Leu Gln Glu Ala Asp Pro Ala
 115 120 125
 Asp Ile Val His Leu His Asp Trp His Val Gly Leu Leu Ala Gly Leu
 130 135 140
 Leu Lys Asn Pro Leu Asn Pro Val His Ser Lys Ile Val Phe Thr Ile
 145 150 155 160
 His Asn Phe Gly Tyr Arg Gly Tyr Cys Ser Thr Gln Leu Leu Ala Ala
 165 170 175
 Ser Gln Ile Asp Asp Phe His Leu Ser His Tyr Gln Leu Phe Arg Asp
 180 185 190
 Pro Gln Thr Ser Val Leu Met Lys Gly Ala Leu Tyr Cys Ser Asp Tyr
 195 200 205
 Ile Thr Thr Val Ser Leu Thr Tyr Val Gln Glu Ile Ile Asn Asp Tyr
 210 215 220
 Ser Asp Tyr Glu Leu His Asp Ala Ile Leu Ala Arg Asn Ser Val Phe
 225 230 235 240
 Ser Gly Ile Ile Asn Gly Ile Asp Glu Asp Val Trp Asn Pro Lys Thr
 245 250 255
 Asp Pro Ala Leu Ala Val Gln Tyr Asp Ala Ser Leu Leu Ser Glu Pro
 260 265 270
 Asp Val Leu Phe Thr Lys Lys Glu Glu Asn Arg Ala Val Leu Tyr Glu
 275 280 285

Lys Leu Gly Ile Ser Ser Asp Tyr Phe Pro Leu Ile Cys Val Ile Ser
 290 295 300
 Arg Ile Val Glu Glu Lys Gly Pro Glu Phe Met Lys Glu Ile Ile Leu
 305 310 315 320
 His Ala Met Glu His Ser Tyr Ala Phe Ile Leu Ile Gly Thr Ser Gln
 325 330 335
 Asn Glu Val Leu Leu Asn Glu Phe Arg Asn Leu Gln Asp Cys Leu Ala
 340 345 350
 Ser Ser Pro Asn Ile Arg Leu Ile Leu Asp Phe Asn Asp Pro Leu Ala
 355 360 365
 Arg Leu Thr Tyr Ala Ala Ala Asp Met Ile Cys Ile Pro Ser His Arg
 370 375 380
 Glu Ala Cys Gly Leu Thr Gln Leu Ile Ala Met Arg Tyr Gly Thr Val
 385 390 395 400
 Pro Leu Val Arg Lys Thr Gly Gly Leu Ala Asp Thr Val Ile Pro Gly
 405 410 415
 Val Asn Gly Phe Thr Phe Phe Asp Thr Asn Asn Phe Asn Glu Phe Arg
 420 425 430
 Ala Met Leu Ser Asn Ala Val Thr Thr Tyr Arg Gln Glu Pro Asp Val
 435 440 445
 Trp Leu Asn Leu Ile Glu Ser Gly Met Leu Arg Ala Ser Gly Leu Asp
 450 455 460
 Ala Met Ala Lys His Tyr Val Asn Leu Tyr Gln Ser Leu Leu Ser
 465 470 475

<210> 951
 <211> 199
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0949

<400> 951
 Arg Thr Ala Leu Leu Ala Gln Asp Tyr Gly Glu Asn Asn Ile Met Glu
 1 5 10 15
 Leu Val Val Thr Ser Arg Glu Thr Gly Lys Lys Ser Phe Leu Lys Lys
 20 25 30
 Ile Arg Gln Gln Gly Gly Ile Pro Ala Val Val Tyr Ser Ala Gly Lys
 35 40 45
 Ser Leu Ala Asn Ile Thr Val Asp Ala Leu Val Phe Lys Lys Phe Leu
 50 55 60
 Ser Asn Leu Glu Ser Gly Ala Leu Ser Ser Thr Val Phe Ser Leu Ser
 65 70 75 80
 Tyr Glu Gly Arg Ile Ile Lys Ala Leu Val Lys Asp Ile Gln Tyr Gln
 85 90 95
 Ile Thr Thr Tyr Asp Val Ile His Leu Asp Phe Glu Glu Leu Val Glu
 100 105 110
 Asp Arg Pro Ile Lys Leu Asn Ile Pro Ile Arg Cys Ile Asn Ala Val
 115 120 125
 Asp Cys Ile Gly Val Lys Leu Gly Gly Ser Leu Arg Gln Val Ile Arg
 130 135 140
 Ala Val Arg Val Val Cys Lys Pro Lys Asp Ile Val Pro Phe Leu Glu
 145 150 155 160
 Leu Asp Val Arg Ser Val Gly Leu Ser Gln Thr Arg Lys Leu Ser Asp
 165 170 175
 Ile Lys Ile Pro Ala Gly Ile Glu Thr Ile Thr Pro Leu Lys Glu Val
 180 185 190
 Ala Ile Thr Val Ser Arg Arg
 195

<210> 952
 <211> 186
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0950

<400> 952
 Pro Ser Leu Glu Asp Asn Met Ala Lys Leu Ile Val Ala Ile Gly Asn
 1 5 10 15
 Pro Arg His Gly Tyr Ala Asn Thr Arg His Asn Ala Gly Phe Leu Leu
 20 25 30
 Ala Asp Arg Leu Val Glu Glu Leu Gln Gly Pro Pro Phe Lys Pro Leu
 35 40 45
 Ser Lys Cys His Ala Leu Met Thr Leu Val Glu Ser Ser Ser Gly Pro
 50 55 60
 Leu Val Phe Ile Lys Pro Thr Thr Phe Val Asn Leu Ser Gly Lys Ala
 65 70 75 80
 Val Val Leu Ala Lys Lys Tyr Phe Asn Val Ala Leu Ser His Ile Leu
 85 90 95
 Val Leu Ala Asp Asp Val Asn Arg Ser Phe Gly Lys Leu Arg Leu Cys
 100 105 110
 Phe Asn Gly Gly Ser Gly Gly His Asn Gly Leu Lys Ser Ile Thr Ala
 115 120 125
 Ser Leu Gly Ser Asn Glu Tyr Trp Gln Leu Arg Phe Gly Val Gly Arg
 130 135 140
 Pro Leu Glu Glu Gly Val Glu Leu Ser Asn Phe Val Leu Gly Lys Phe
 145 150 155 160
 Ser Glu Glu Glu Asn Leu Gln Leu Gly Ser Ile Phe Val Glu Ala Ser
 165 170 175
 Thr Leu Phe Thr Glu Trp Cys Ser Lys Phe
 180 185

<210> 953
 <211> 115
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0951

<400> 953
 Glu Phe Leu Met Gly Lys Lys Glu Asn Gln Leu Tyr Glu Gly Ala Tyr
 1 5 10 15
 Val Phe Ser Val Thr Leu Ser Glu Glu Ala Arg Arg Lys Ala Leu Asp
 20 25 30
 Lys Val Ile Ser Gly Ile Thr Asn Tyr Gly Gly Glu Ile His Lys Ile
 35 40 45
 His Asp Gln Gly Arg Lys Lys Leu Ala Tyr Thr Ile Arg Gly Ala Arg
 50 55 60
 Glu Gly Tyr Tyr Tyr Phe Ile Tyr Phe Ser Val Ser Pro Gly Ala Ile
 65 70 75 80
 Thr Glu Leu Trp Lys Glu Tyr His Leu Asn Glu Asp Leu Leu Arg Phe
 85 90 95
 Met Thr Leu Arg Ala Asp Ser Val Lys Glu Val Leu Glu Phe Ala Ser
 100 105 110
 Leu Pro Glu
 115

<210> 954
 <211> 85
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0952

<400> 954
 Gly Glu Asn Met Asn Lys Pro Val His Asn Asn Glu His Arg Arg Lys
 1 5 10 15
 Arg Phe Asn Lys Lys Cys Pro Phe Val Ser Ala Gly Trp Lys Thr Ile
 20 25 30
 Asp Tyr Lys Asp Val Glu Thr Leu Lys Lys Phe Ile Thr Glu Arg Gly
 35 40 45
 Lys Val Leu Pro Arg Arg Ile Thr Gly Val Ser Ser Arg Phe Gln Gly
 50 55 60
 Val Leu Ser Gln Ala Ile Lys Arg Ala Arg His Leu Gly Leu Leu Pro
 65 70 75 80
 Phe Val Gly Glu Asp
 85

<210> 955
 <211> 174
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0953

<400> 955
 Phe Lys Gly Arg Arg Met Lys Gln Gln Leu Leu Leu Leu Glu Asp Val
 1 5 10 15
 Asp Gly Leu Gly Arg Ser Gly Asp Leu Ile Thr Ala Arg Pro Gly Tyr
 20 25 30
 Val Arg Asn Tyr Leu Ile Pro Lys Lys Lys Ala Val Ile Ala Gly Ala
 35 40 45
 Gly Thr Leu Arg Leu Gln Ala Lys Leu Lys Glu Gln Arg Leu Ile Gln
 50 55 60
 Ala Ala Ala Asp Lys Ala Asp Ser Glu Arg Ile Ala Gln Ala Leu Lys
 65 70 75 80
 Asp Ile Val Leu Glu Phe Gln Val Arg Val Asp Pro Asp Asn Asn Met
 85 90 95
 Tyr Gly Ser Val Thr Ile Ala Asp Ile Ile Ala Glu Ala Ala Lys Lys
 100 105 110
 Asn Ile Phe Leu Val Arg Lys Asn Phe Pro His Ala His Tyr Ala Ile
 115 120 125
 Lys Asn Leu Gly Lys Lys Asn Ile Pro Leu Lys Leu Lys Glu Glu Val
 130 135 140
 Thr Ala Thr Leu Leu Val Glu Val Thr Ser Asp Asn Glu Tyr Val Thr
 145 150 155 160
 Val Leu Ala Gln Gly Lys Gln Thr Glu Glu Asn Gln Glu Gly
 165 170

<210> 956
 <211> 150
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0954

<400> 956
 Gly Arg Lys Val Cys Tyr Lys Asp Ile Met Gln Tyr Phe Ser Pro Ala
 1 5 10 15
 Lys Leu Asn Leu Phe Leu Lys Ile Trp Gly Lys Arg Phe Asp Asn Phe
 20 25 30
 His Glu Leu Thr Thr Leu Tyr Gln Ala Ile Asp Phe Gly Asp Thr Leu
 35 40 45
 Ser Leu Lys Asn Ser Met Lys Asp Ser Leu Ser Ser Asn Val Asn Glu
 50 55 60
 Leu Leu Ser Pro Ser Asn Leu Ile Trp Lys Ser Leu Glu Ile Phe Arg
 65 70 75 80
 Arg Glu Thr Gln Ile His Gln Pro Val Ser Trp His Leu Asn Lys Ser
 85 90 95
 Ile Pro Leu Gln Ser Gly Leu Gly Gly Gly Ser Ser Asn Ala Ala Thr
 100 105 110
 Ala Leu Tyr Ala Leu Asn Glu His Phe Gln Thr His Ile Pro Ile Thr
 115 120 125
 Thr Leu Gln Leu Trp Ala Arg Glu Ile Gly Ser Asp Val Pro Phe Phe
 130 135 140
 Phe Leu Gln Glu Gln His
 145 150

<210> 957
 <211> 188
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0955

<400> 957
 Arg Ala Phe Pro Asn Pro Tyr Ser Tyr Asn Asn Ile Ala Thr Leu Gly
 1 5 10 15
 Ser Arg Asn Arg Lys Arg Cys Ser Phe Phe Phe Ser Ser Gly Thr Ala
 20 25 30
 Leu Gly Lys Gly Arg Gly Glu His Leu Phe Ser Ile Lys Lys Leu Asn
 35 40 45
 His Lys His Lys Tyr Val Leu Tyr Leu Asp His Gln Gly Ile Pro Thr
 50 55 60
 Glu Lys Ala Tyr Gln Ser Leu Leu Pro Gln Asp Tyr Ser Thr Gly Asn
 65 70 75 80
 His Asn Ala Cys Phe Tyr Gly Glu Asn Asp Leu Glu Lys Ser Val Phe
 85 90 95
 Arg Ile Arg Thr Asp Leu Lys Asn Lys Lys His Met Leu Glu Arg Met
 100 105 110
 Trp Ser Pro Phe Glu Ser His Val Leu Met Ser Gly Ser Gly Ala Thr
 115 120 125
 Leu Phe Val Cys Tyr Leu Glu Glu Leu Glu Gln Asp Ser Lys Val Ser
 130 135 140
 Ser Gln Ile His Ser Leu Ile Lys Gln Thr Gln Gly Ile Pro Val Ser
 145 150 155 160
 Arg Leu Tyr Arg Glu Pro His Trp Tyr Ser Leu Lys Gln Ser Thr Tyr
 165 170 175
 Lys Asn Ser Pro Leu Glu Cys Phe Gln Pro Gln Ile
 180 185

<210> 958
 <211> 455
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0956

<400> 958

Leu Val Trp Phe Ser Met Ile Leu Pro Pro Tyr Ser Tyr Ser Leu Lys
1 5 10 15
Ile Gly Ala Ala Val Leu Phe Phe Cys Ser Ile Leu His Thr Phe Leu
20 25 30
Thr Pro Trp Leu Tyr Thr Leu Cys Gln Ser Tyr Glu His Lys Lys Leu
35 40 45
Val Phe Pro Glu Cys Trp Lys Arg Tyr Ala Arg Leu Ser Glu Leu Phe
50 55 60
Arg Ile Leu Ser Arg Val Glu Ile Val Phe Phe Leu Trp Ala Val Pro
65 70 75 80
Leu Phe Phe Trp Phe Leu Tyr Thr Glu Gly Tyr Arg Ile Ser Met Ala
85 90 95
Tyr Phe Asn Ser Arg Asn Tyr Gly Phe Ala Val Phe Ile Met Val Ile
100 105 110
Leu Ile Leu Leu Glu Ser Arg Pro Ile Val Tyr Phe Ala Glu Leu Val
115 120 125
Leu Ser Ser Ile Ala Lys Leu Gly Lys Thr Ser Pro Lys Ser Trp Trp
130 135 140
Trp Thr Leu Met Ile Ala Pro Pro Leu Leu Ser Cys Leu Leu Lys Glu
145 150 155 160
Thr Gly Ala Met Ile Ile Gly Ala Thr Leu Leu Met Arg His Phe Tyr
165 170 175
Val Phe Ser Pro Ser Arg Arg Phe Ala Tyr Ala Thr Met Gly Leu Leu
180 185 190
Phe Ser Asn Ile Ser Ile Gly Gly Leu Thr Ser Tyr Val Ser Ser Arg
195 200 205
Ala Leu Phe Leu Ile Phe Pro Ala Leu Lys Trp Glu His Ser Phe Phe
210 215 220
Leu Ser His Phe Ala Trp Lys Ala Ile Val Ala Ile Leu Ile Ser Thr
225 230 235 240
Thr Ile Tyr Tyr Phe Ile Phe Arg Lys Glu Phe Lys Lys Phe Pro Asp
245 250 255
Ile Pro Ser Asp Lys Asp Pro Ser Val Glu Lys Val Pro Trp Trp Ile
260 265 270
Ile Cys Val Asn Ile Ile Phe Val Gly Ser Ile Ile Leu Ser Arg Ser
275 280 285
Thr Pro Leu Phe Met Gly Ala Leu Leu Leu Phe Tyr Leu Gly Phe Gln
290 295 300
Lys Phe Thr Ile Phe Tyr Gln Asp Pro Ile Asn Leu Ser Lys Val Cys
305 310 315 320
Tyr Val Gly Leu Phe Tyr Ala Gly Leu Val Val Phe Gly Asp Leu Gln
325 330 335
Glu Trp Trp Val Leu Asn Leu Met Gln Gly Leu Ser Asp Phe Gly Tyr
340 345 350
Met Thr Val Ser Tyr Thr Leu Ser Ile Phe Leu Asp Asn Ala Leu Val
355 360 365
Asn Tyr Leu Val His Asn Leu Ser Val Ala Thr Asp Cys Tyr His Tyr
370 375 380
Leu Val Val Ala Gly Cys Met Ala Ala Gly Gly Leu Thr Leu Val Ser
385 390 395 400
Asn Ile Pro Asn Ile Val Gly Tyr Leu Ile Leu Arg Ser Ala Phe Pro
405 410 415
Ser Ser Thr Ile His Met Gly Trp Leu Phe Leu Gly Ala Leu Gly Pro
420 425 430
Ser Ile Ile Ser Leu Gly Val Phe Trp Leu Leu Lys Asn Val Pro Glu
435 440 445

Phe Leu Tyr Cys Phe Phe Arg
450 455

<210> 959
<211> 950
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn0957

<400> 959
Lys Ile Tyr Thr Arg Asn Cys Lys Met Phe Trp Lys Leu Leu Cys Pro
1 5 10 15
Ile Leu Ile Cys Thr Ser Leu Ser Ile Thr Ser Cys Glu Gln Gln Phe
20 25 30
Lys Val Val Pro Asn Gln Cys Pro Leu Gln Val Ser Thr Pro Ala Ala
35 40 45
Ala Asp Gln Lys Ile Glu Lys Ile Ile Cys Ser Asn Gly Leu Pro Leu
50 55 60
Leu Ile Ile Ser Asp Pro Asn Leu Pro Thr Ser Gly Ala Ala Leu Leu
65 70 75 80
Val Lys Thr Gly Asn Asn Ala Asp Pro Glu Glu Tyr Pro Gly Met Ala
85 90 95
His Phe Thr Glu His Cys Val Phe Leu Gly Asn Glu Lys Tyr Pro Glu
100 105 110
Val Ser Gly Phe Pro Gly Phe Leu Ser Glu Asn Asn Gly Val His Asn
115 120 125
Ala Phe Thr Tyr Pro Asn Lys Thr Val Phe Val Phe Ser Val Glu His
130 135 140
Ser Ala Phe Ser Asp Ala Leu Asp Gln Phe Val His Leu Phe Ile Asn
145 150 155 160
Pro Lys Phe Arg Gln Glu Asp Leu Asp Arg Glu Lys Tyr Ala Val His
165 170 175
Gln Glu Phe Ala Ala His Pro Leu Ser Asp Gly Arg Arg Val His Arg
180 185 190
Ile Gln Gln Leu Val Ala Pro Gln Gly His Pro Cys Ala Arg Phe Gly
195 200 205
Cys Gly Asn Ala Ser Thr Leu Thr Pro Val Thr Thr Glu Lys Met Ala
210 215 220
Glu Trp Phe Lys Leu His Tyr Ser Pro Glu Asn Met Cys Ala Ile Ala
225 230 235 240
Tyr Thr Ser Ala Pro Leu Ser Lys Ala Lys Lys Gln Phe Ser Lys Ile
245 250 255
Phe Ser Gln Ile Pro Arg Ser Lys Asn Tyr Glu Arg Gln Glu Pro Phe
260 265 270
Leu Pro Ser Gly Asp Thr Ser Ser Leu Lys Asn Leu Tyr Ile Asn Gln
275 280 285
Ala Ile Gln Pro Thr Ser Asn Leu Glu Ile Tyr Trp His Ile Tyr Glu
290 295 300
Ser Ser His Pro Ile Pro Leu Gly Cys Tyr Lys Ala Leu Ala Glu Val
305 310 315 320
Leu Arg Asn Glu Ser Lys Asn Ser Leu Val Ser Leu Leu Lys Asn Glu
325 330 335
Gln Leu Ile Thr Asp Leu Asp Val Glu Phe Phe Arg Ser Ser Leu Asn
340 345 350
Thr Gly Glu Phe Tyr Ile Ser Tyr Glu Leu Thr Glu Lys Gly Asp Lys
355 360 365
His Tyr Ser Gln Val Ile Asp Ser Thr Phe Gln Tyr Leu Arg Tyr Ile
370 375 380

Gln Glu His Gly Ile Pro Asn Tyr Thr Leu Glu Glu Ile Ser Thr Ile
 385 390 395 400
 Asn Ala Leu Asn Tyr Cys Tyr Ser Ser Lys Ser Pro Leu Phe Asp Leu
 405 410 415
 Leu Cys Lys Gln Ile Val Ser Leu Gly Asn Glu Asp Leu Ser Thr Tyr
 420 425 430
 Pro Tyr His Ser Leu Val Tyr Pro Lys Tyr Ser Ser Glu Asp Glu Ser
 435 440 445
 Ala Leu Leu Asn Leu Val Ser Asp Pro Glu Gln Ala Arg Phe Val Leu
 450 455 460
 Ser Ser Lys Asn Ser Glu His Trp Glu Glu Ala Thr Gln Leu His Asp
 465 470 475 480
 Pro Ile Phe Asp Met Thr Tyr Tyr Val Lys Ala Leu Asp Gly Val Gln
 485 490 495
 Asp Tyr Gly Lys Val Gln Ser Leu Lys Pro Ile Ala Leu Pro Lys Pro
 500 505 510
 Asn Leu Phe Ile Pro Lys Glu Val Thr Leu Pro Gly Val His Leu Leu
 515 520 525
 Lys Lys Gln Glu Phe Pro Phe Ala Pro Ala Leu Ser Tyr Gln Asp Asp
 530 535 540
 Lys Leu Thr Leu Tyr His Cys Glu Asp His Tyr Tyr Thr Ala Pro Lys
 545 550 555 560
 Leu Ser Ser Gln Ile Arg Ile Arg Ser Pro Gln Ile Ser Arg Ser Ser
 565 570 575
 Pro Gln Phe Leu Val Ala Thr Glu Leu Tyr Cys Leu Ala Val Asn Asp
 580 585 590
 Gln Leu Leu Arg Glu Tyr Tyr Pro Ala Thr Gln Ala Gly Leu Ser Phe
 595 600 605
 Thr Ser Ala Leu Gly Gly Asp Gly Ile Asp Leu Arg Val Ser Gly Tyr
 610 615 620
 Thr Thr Thr Val Pro Ala Leu Leu Asn Ser Ile Leu Thr Ser Leu Pro
 625 630 635 640
 Asn Leu Glu Ile Ser Tyr Glu Thr Phe Leu Val Tyr Lys Lys Gln Leu
 645 650 655
 Leu Glu Leu Tyr Gln Gly Ala Leu Leu Asn Cys Pro Val Arg Ser Gly
 660 665 670
 Leu Asp Glu Leu Ala Ser Gln Val Met Lys Glu Thr Tyr Ser Asn Thr
 675 680 685
 Thr Lys Leu Ser Ala Leu Glu Lys Leu Ser Phe Ser Glu Phe Gln Ala
 690 695 700
 Phe Ala Ser Asn Leu Phe Asn Ser Val His Leu Glu Val Met Val Leu
 705 710 715 720
 Gly Asn Leu Ser Glu Gln Gln Lys Lys Asp Tyr Leu Glu Met Leu Gln
 725 730 735
 Val Phe Thr Ala Ser Arg Ser Ser His Ala Thr Lys Pro Phe Tyr Tyr
 740 745 750
 Glu Leu Gln Ser Gln Glu Ile Ser Glu Ile His His Asp Tyr Pro Leu
 755 760 765
 Thr Ala Asn Gly Met Leu Leu Leu Leu Gln Asp Lys Ser Ser Pro Ser
 770 775 780
 Ile Gln Gly Lys Val Cys Ala Glu Met Leu Phe Glu Trp Leu His His
 785 790 795 800
 Ile Thr Phe Glu Glu Leu Arg Thr Gln Gln Gln Leu Gly Tyr Met Val
 805 810 815
 Gly Ala Arg Tyr Arg Glu Phe Ala Ser Arg Pro Phe Gly Phe Leu Tyr
 820 825 830
 Ile Arg Ser Asp Ala Tyr Ser Pro Glu Glu Leu Leu Ala Lys Thr Ser
 835 840 845
 Leu Phe Leu Asn Lys Val Ser Ala Ser Pro Glu Lys Phe Gly Ile Ser
 850 855 860

Gln Glu Lys Phe Ala Asn Ile Arg Lys Ala Tyr Ile Asn Lys Ile Leu
 865 870 875 880
 Glu Pro Glu His Ser Leu Asp Met Met Asn Ser Ala Leu Phe Ser Leu
 885 890 895
 Ala Phe Glu Arg Pro Phe Val Glu Phe Ser Thr Pro Asp Leu Lys Ile
 900 905 910
 Ala Ile Ala Glu Thr Leu Thr Tyr Glu Glu Phe Leu Lys Tyr Cys Gln
 915 920 925
 Cys Phe Leu Ser Asn Glu Leu Gly Thr Gln Thr Ser Val Tyr Ile Arg
 930 935 940
 Gly Thr Gln Lys Thr Ser
 945 950

<210> 960
 <211> 337
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0958

<400> 960
 Ile Tyr Arg Ala Ile Tyr Met Gln Phe Ser Arg Tyr Leu Arg Tyr Ala
 1 5 10 15
 Phe Asp Asn Gln Tyr Leu Pro Glu Pro Leu Tyr Gln Lys Phe Ser Val
 20 25 30
 Phe His Gln Asn Tyr Ile Asp Ala Ala Thr Lys Lys Ala Ala Ala Asp
 35 40 45
 Gln Ala Glu Val Leu Cys Leu Gln Trp Val Lys Val Ile Ile Glu Asp
 50 55 60
 Leu Lys Asn Pro Phe Ile Phe Pro Pro Tyr His Lys Lys Ile Arg Ala
 65 70 75 80
 Pro Ile Asp Leu Phe Arg Leu Ser Ile Asp Phe Phe Ser Leu Val Ile
 85 90 95
 Asp Asp Lys Asn Ser Arg Ile Leu Asn Leu His Arg Leu Lys Glu Ile
 100 105 110
 Glu Glu Tyr Ile Ala Arg Gly Asp Asn Val Val Leu Leu Ala Asn His
 115 120 125
 Gln Thr Glu Cys Asp Pro Gln Leu Met Tyr Tyr Ala Leu Gly Lys Thr
 130 135 140
 His Pro Glu Leu Met Glu Asn Met Ile Phe Val Ala Gly Asp Arg Val
 145 150 155 160
 Thr Ser Asp Pro Leu Ala Arg Pro Phe Ser Met Gly Cys Asp Leu Leu
 165 170 175
 Cys Ile Tyr Ser Lys Arg His Ile Ala Thr Pro Pro Glu Leu Arg Glu
 180 185 190
 Glu Lys Leu Leu His Asn Gln Lys Ser Met Gln Ile Leu Lys Thr Leu
 195 200 205
 Leu Asn Glu Gly Gly Lys Phe Ile Tyr Val Ala Pro Ala Gly Gly Arg
 210 215 220
 Asp Arg Lys Asn Ala Glu Gly Arg Leu Tyr Pro Ser Glu Phe Ser Pro
 225 230 235 240
 Glu Ser Ile Glu Val Phe Arg Leu Leu Ala Lys Ala Ser Asn Gln Thr
 245 250 255
 Thr His Phe Tyr Pro Phe Ala Leu Lys Thr Tyr Asp Ile Leu Pro Pro
 260 265 270
 Pro Pro Lys Ile Glu Asn Ala Ile Gly Glu Gln Arg Ala Ile Phe Phe
 275 280 285
 Ala Pro Val Phe Phe Asn Phe Gly Ala Glu Leu Phe Phe Asp Ala Leu
 290 295 300

Cys Ser Lys Glu Glu Leu Ile His Cys Asp Lys His Ala Gln Arg Thr
 305 310 315 320
 Leu Arg Ala Glu Lys Val Phe Ser Ile Val Lys Asn Leu Tyr Glu Glu
 325 330 335
 Leu

<210> 961
 <211> 526
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0959

<400> 961
 Ala Gln Gly Tyr Gly Ile Gly Thr Arg Lys Val Met Glu Asn Glu Ile
 1 5 10 15
 Leu Leu Asn Ile Glu Ser Lys Glu Ile Arg Tyr Ala His Leu Lys Asn
 20 25 30
 Gly Gln Leu Phe Asp Leu Thr Ile Glu Arg Lys Lys Val Arg Gln Leu
 35 40 45
 Lys Gly Asn Ile Tyr Arg Gly Arg Val Thr Asn Ile Leu Arg Asn Ile
 50 55 60
 Gln Ser Ala Phe Ile Asn Ile Asp Glu Arg Glu Asn Gly Phe Ile His
 65 70 75 80
 Ile Ser Asp Ile Leu Glu Asn Ser Lys Lys Phe Glu Gln Met Phe Asp
 85 90 95
 Met Asp Val Asp Ala Leu Pro Glu Glu Ala Ser Glu Ala Pro Leu Leu
 100 105 110
 Ser Ser Glu Glu Ala Pro Ile Glu Glu Phe Leu Lys Leu Asp Ser Pro
 115 120 125
 Val Leu Val Gln Val Val Lys Glu Pro Ile Gly Ser Lys Gly Ala Arg
 130 135 140
 Leu Thr Ser Asn Ile Ser Ile Pro Gly Arg Tyr Leu Val Leu Leu Pro
 145 150 155 160
 Asn Ser Pro His Arg Gly Val Ser Arg Lys Ile Glu Asp Pro His Met
 165 170 175
 Arg Glu Gln Leu Lys Gln Leu Ile Arg Ser Phe Glu Met Pro Gln Asp
 180 185 190
 Met Gly Leu Ile Cys Arg Thr Ala Ser Thr Thr Ala Ser Thr Glu Ala
 195 200 205
 Leu Ile Asn Glu Ala His Asp Leu Leu Leu Thr Trp Lys Thr Ile Leu
 210 215 220
 Glu Lys Phe Tyr Ser Thr Glu Gln Pro Cys Leu Leu Tyr Ser Glu Thr
 225 230 235 240
 Asp Ile Leu Lys Lys Ala Val Ile Thr Cys Ile Asp Lys Asn Tyr Lys
 245 250 255
 Arg Leu Leu Ile Asp Asp Tyr Ala Thr Tyr Gln Lys Cys Lys His Met
 260 265 270
 Leu Lys Lys Tyr Ser Pro Asp Ala Ser Ile Lys Ile Glu Tyr Tyr Arg
 275 280 285
 Asp Ser Ile Pro Met Phe Glu Arg Phe Asn Ile Glu Lys Glu Ile Asp
 290 295 300
 Lys Ala Thr Arg Arg Lys Ile Trp Leu Ser Ser Gly Gly Tyr Leu Phe
 305 310 315 320
 Phe Asp Lys Thr Glu Ala Met His Thr Ile Asp Val Asn Ser Gly Arg
 325 330 335
 Ser Thr Gln Leu Glu Ser Gly Val Glu Glu Thr Leu Val Gln Ile Asn
 340 345 350

Leu Glu Ala Ala Glu Glu Ile Ala Arg Gln Leu Arg Leu Arg Asn Val
 355 360 365
 Gly Gly Leu Val Ile Ile Asp Phe Ile Asp Met Lys Ser Arg Lys Asn
 370 375 380
 Gln Arg Arg Val Leu Glu Arg Leu Lys Glu His Met Lys Tyr Asp Ala
 385 390 395 400
 Ala Arg Cys Thr Ile Leu Ser Met Ser Glu Phe Gly Leu Val Glu Met
 405 410 415
 Thr Arg Gln Arg Asn Arg Glu Ser Leu Met Gln Thr Leu Phe Thr Leu
 420 425 430
 Cys Pro Tyr Cys Ser Gly Asn Ala Ile Ile Lys Thr Pro Glu Ser Val
 435 440 445
 Val Ile Glu Ile Glu Arg Asp Leu Lys Lys Val Ile Asn His Lys Glu
 450 455 460
 His Ser His Leu Cys Leu Val Val His Pro Glu Ile Ala Ser Tyr Met
 465 470 475 480
 Lys Gln Glu Asn Asp Asp Asn Glu Met Ile Asn Leu Ala Lys Gln Leu
 485 490 495
 Lys Ala Lys Leu Gln Ile Asn Thr Ser Asp Ser Val His Leu Asn His
 500 505 510
 Tyr Gln Phe Ser Leu Ile Thr Gly Glu Ser Ile Asp Leu
 515 520 525

<210> 962
 <211> 176
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0960

<400> 962
 Ser Leu Ser Leu Val Ser Tyr Leu Ser Asn Pro Gln Lys Ala Leu Val
 1 5 10 15
 Leu Gly Ser Lys Gly Phe Ser Met Asp Cys Val Asp Asn Leu Lys Leu
 20 25 30
 Tyr Ile Phe Arg Leu Lys Leu Pro Gly Asp Thr Glu Arg Ile Ser Tyr
 35 40 45
 Ser Ile Ser Pro Glu Tyr Ile Arg Glu Lys Gly Glu Glu Glu Leu Leu
 50 55 60
 Asn Ser Pro Ile Glu Val Glu Gly Ser Leu Gly Arg Ile Asp Ser Asp
 65 70 75 80
 Gln Trp Ile Leu Ser Leu Ser Leu Lys Thr Gln Leu Gly Leu Cys Cys
 85 90 95
 Pro Val Cys Asn Asn Phe Phe Ser His Ser Val Cys Leu Pro Asp Leu
 100 105 110
 Gln Arg Val Ile Ser His Asp Glu Val Gly Ser Gly Val Phe Asp Cys
 115 120 125
 Arg Pro Leu Ile Arg Gln Glu Leu Leu Leu Glu Ser Asp Cys Phe Glu
 130 135 140
 Glu Cys Ser Gly Gln Gly Cys Pro Glu Arg Lys Asn Ile Leu Lys Phe
 145 150 155 160
 Leu Glu Asp Arg Lys Lys His Glu Gly Asn Ser Pro Phe Glu Tyr Leu
 165 170 175

<210> 963
 <211> 64
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0961

<400> 963

Lys Val Arg Asn Met Ala Val Pro Arg Asn Arg His Ser Asn Ala Arg
1 5 10 15
Lys Asn Ile Arg Arg Ser His Asp Ala Lys Lys Ala Cys His Ala Ala
20 25 30
Lys Cys Ser Asn Cys Lys His Ala Leu Leu Pro His Thr Ile Cys Pro
35 40 45
Ser Cys Gly Phe Tyr Asn Gly Lys Ala Val Met Thr Val Glu Lys Lys
50 55 60

<210> 964

<211> 325

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0962

<400> 964

Ile Leu Ser Asp Phe Met Glu Val Gln Ile Gly Ile Asp Leu Met Gly
1 5 10 15
Gly Asp His Ser Pro Leu Val Val Trp Gln Val Leu Val Asp Val Leu
20 25 30
Lys Ser Gln Ser Ser Thr Ile Pro Phe Ala Phe Thr Leu Phe Ala Ser
35 40 45
Glu Glu Ile Arg Lys Gln Ile Gln Glu Glu Phe Ile Ser Asp Leu Pro
50 55 60
Gln Glu Lys Phe Pro Lys Ile Ile Ser Ala Glu Asn Phe Val Ala Met
65 70 75 80
Glu Asp Ser Pro Leu Ala Ala Ile Arg Lys Lys Ser Ser Ser Met Ala
85 90 95
Leu Gly Leu Asp Tyr Leu Gln Glu Asp Lys Leu Asp Ala Phe Ile Ser
100 105 110
Thr Gly Asn Thr Gly Ala Leu Val Thr Leu Ala Arg Ala Lys Ile Pro
115 120 125
Leu Phe Pro Ala Val Ser Arg Pro Ala Leu Leu Val Cys Val Pro Thr
130 135 140
Met Arg Gly His Ala Val Ile Leu Asp Val Gly Ala Asn Ile Ser Val
145 150 155 160
Lys Pro Glu Glu Met Val Gly Phe Ala Arg Met Gly Leu Ala Tyr Arg
165 170 175
Gln Cys Leu Gly Asp Ser Lys Ile Pro Thr Ile Gly Leu Leu Asn Ile
180 185 190
Gly Ser Glu Glu Arg Lys Gly Thr Glu Ala His Arg Gln Thr Phe Arg
195 200 205
Met Leu Arg Glu Thr Phe Gly Glu Ala Phe Leu Gly Asn Ile Glu Ser
210 215 220
Gly Ala Val Phe Asp Gly Ala Ala Asp Ile Val Val Thr Asp Gly Phe
225 230 235 240
Thr Gly Asn Ile Phe Leu Lys Thr Ala Glu Gly Val Phe Glu Phe Leu
245 250 255
Gln Arg Ile Leu Gly Asp Lys Leu Glu Ala Asp Ile Gln Arg Arg Leu
260 265 270
Asp Tyr Thr Phe Tyr Pro Gly Ser Val Val Cys Gly Leu Ser Lys Leu
275 280 285
Val Ile Lys Cys His Gly Lys Ala Cys Gly Ser Ser Leu Phe His Gly
290 295 300

Ile Leu Gly Ser Ile Asn Leu Ala Gln Ala Arg Leu Cys Lys Arg Ile
 305 310 315 320
 Leu Ser Asn Leu Ile
 325

<210> 965
 <211> 1617
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0963

<400> 965
 Thr Pro Leu Arg Phe Lys Val Ala Met Val Ala Lys Lys Thr Val Arg
 1 5 10 15
 Ser Tyr Arg Ser Ser Phe Ser His Ser Val Ile Val Ala Ile Leu Ser
 20 25 30
 Ala Gly Ile Ala Phe Glu Ala His Ser Leu His Ser Ser Glu Leu Asp
 35 40 45
 Leu Gly Val Phe Asn Lys Gln Phe Glu Glu His Ser Ala His Val Glu
 50 55 60
 Glu Ala Gln Thr Ser Val Leu Lys Gly Ser Asp Pro Val Asn Pro Ser
 65 70 75 80
 Gln Lys Glu Ser Glu Lys Val Leu Tyr Thr Gln Val Pro Leu Thr Gln
 85 90 95
 Gly Ser Ser Gly Glu Ser Leu Asp Leu Ala Asp Ala Asn Phe Leu Glu
 100 105 110
 His Phe Gln His Leu Phe Glu Glu Thr Thr Val Phe Gly Ile Asp Gln
 115 120 125
 Lys Leu Val Trp Ser Asp Leu Asp Thr Arg Asn Phe Ser Gln Pro Thr
 130 135 140
 Gln Glu Pro Asp Thr Ser Asn Ala Val Ser Glu Lys Ile Ser Ser Asp
 145 150 155 160
 Thr Lys Glu Asn Arg Lys Asp Leu Glu Thr Glu Asp Pro Ser Lys Lys
 165 170 175
 Ser Gly Leu Lys Glu Val Ser Ser Asp Leu Pro Lys Ser Pro Glu Thr
 180 185 190
 Ala Val Ala Ala Ile Ser Glu Asp Leu Glu Ile Ser Glu Asn Ile Ser
 195 200 205
 Ala Arg Asp Pro Leu Gln Gly Leu Ala Phe Phe Tyr Lys Asn Thr Ser
 210 215 220
 Ser Gln Ser Ile Ser Glu Lys Asp Ser Ser Phe Gln Gly Ile Ile Phe
 225 230 235 240
 Ser Gly Ser Gly Ala Asn Ser Gly Leu Gly Phe Glu Asn Leu Lys Ala
 245 250 255
 Pro Lys Ser Gly Ala Ala Val Tyr Ser Asp Arg Asp Ile Val Phe Glu
 260 265 270
 Asn Leu Val Lys Gly Leu Ser Phe Ile Ser Cys Glu Ser Leu Glu Asp
 275 280 285
 Gly Ser Ala Ala Gly Val Asn Ile Val Val Thr His Cys Gly Asp Val
 290 295 300
 Thr Leu Thr Asp Cys Ala Thr Gly Leu Asp Leu Glu Ala Leu Arg Leu
 305 310 315 320
 Val Lys Asp Phe Ser Arg Gly Gly Ala Val Phe Thr Ala Arg Asn His
 325 330 335
 Glu Val Gln Asn Asn Leu Ala Gly Gly Ile Leu Ser Val Val Gly Asn
 340 345 350
 Lys Gly Ala Ile Val Val Glu Lys Asn Ser Ala Glu Lys Ser Asn Gly
 355 360 365

Gly Ala Phe Ala Cys Gly Ser Phe Val Tyr Ser Asn Asn Glu Asn Thr
 370 375 380
 Ala Leu Trp Lys Glu Asn Gln Ala Leu Ser Gly Gly Ala Ile Ser Ser
 385 390 395 400
 Ala Ser Asp Ile Asp Ile Gln Gly Asn Cys Ser Ala Ile Glu Phe Ser
 405 410 415
 Gly Asn Gln Ser Leu Ile Ala Leu Gly Glu His Ile Gly Leu Thr Asp
 420 425 430
 Phe Val Gly Gly Gly Ala Leu Ala Ala Gln Gly Thr Leu Thr Leu Arg
 435 440 445
 Asn Asn Ala Val Val Gln Cys Val Lys Asn Thr Ser Lys Thr His Gly
 450 455 460
 Gly Ala Ile Leu Ala Gly Thr Val Asp Leu Asn Glu Thr Ile Ser Glu
 465 470 475 480
 Val Ala Phe Lys Gln Asn Thr Ala Ala Leu Thr Gly Gly Ala Leu Ser
 485 490 495
 Ala Asn Asp Lys Val Ile Ile Ala Asn Asn Phe Gly Glu Ile Leu Phe
 500 505 510
 Glu Gln Asn Glu Val Arg Asn His Gly Gly Ala Ile Tyr Cys Gly Cys
 515 520 525
 Arg Ser Asn Pro Lys Leu Glu Gln Lys Asp Ser Gly Glu Asn Ile Asn
 530 535 540
 Ile Ile Gly Asn Ser Gly Ala Ile Thr Phe Leu Lys Asn Lys Ala Ser
 545 550 555 560
 Val Leu Glu Val Met Thr Gln Ala Glu Asp Tyr Ala Gly Gly Gly Ala
 565 570 575
 Leu Trp Gly His Asn Val Leu Leu Asp Ser Asn Ser Gly Asn Ile Gln
 580 585 590
 Phe Ile Gly Asn Ile Gly Gly Ser Thr Phe Trp Ile Gly Glu Tyr Val
 595 600 605
 Gly Gly Gly Ala Ile Leu Ser Thr Asp Arg Val Thr Ile Ser Asn Asn
 610 615 620
 Ser Gly Asp Val Val Phe Lys Gly Asn Lys Gly Gln Cys Leu Ala Gln
 625 630 635 640
 Lys Tyr Val Ala Pro Gln Glu Thr Ala Pro Val Glu Ser Asp Ala Ser
 645 650 655
 Ser Thr Asn Lys Asp Glu Lys Ser Leu Asn Ala Cys Ser His Gly Asp
 660 665 670
 His Tyr Pro Pro Lys Thr Val Glu Glu Glu Val Pro Pro Ser Leu Leu
 675 680 685
 Glu Glu His Pro Val Val Ser Ser Thr Asp Ile Arg Gly Gly Gly Ala
 690 695 700
 Ile Leu Ala Gln His Ile Phe Ile Thr Asp Asn Thr Gly Asn Leu Arg
 705 710 715 720
 Phe Ser Gly Asn Leu Gly Gly Gly Glu Glu Ser Ser Thr Val Gly Asp
 725 730 735
 Leu Ala Ile Val Gly Gly Gly Ala Leu Leu Ser Thr Asn Glu Val Asn
 740 745 750
 Val Cys Ser Asn Gln Asn Val Val Phe Ser Asp Asn Val Thr Ser Asn
 755 760 765
 Gly Cys Asp Ser Gly Gly Ala Ile Leu Ala Lys Lys Val Asp Ile Ser
 770 775 780
 Ala Asn His Ser Val Glu Phe Val Ser Asn Gly Ser Gly Lys Phe Gly
 785 790 795 800
 Gly Ala Val Cys Ala Leu Asn Glu Ser Val Asn Ile Thr Asp Asn Gly
 805 810 815
 Ser Ala Val Ser Phe Ser Lys Asn Arg Thr Arg Leu Gly Gly Ala Gly
 820 825 830
 Val Ala Ala Pro Gln Gly Ser Val Thr Ile Cys Gly Asn Gln Gly Asn
 835 840 845

Ile Ala Phe Lys Glu Asn Phe Val Phe Gly Ser Glu Asn Gln Arg Ser
 850 855 860
 Gly Gly Gly Ala Ile Ile Ala Asn Ser Ser Val Asn Ile Gln Asp Asn
 865 870 875 880
 Ala Gly Asp Ile Leu Phe Val Ser Asn Ser Thr Gly Ser Tyr Gly Gly
 885 890 895
 Ala Ile Phe Val Gly Ser Leu Val Ala Ser Glu Gly Ser Asn Pro Arg
 900 905 910
 Thr Leu Thr Ile Thr Gly Asn Ser Gly Asp Ile Leu Phe Ala Lys Asn
 915 920 925
 Ser Thr Gln Thr Ala Ala Ser Leu Ser Glu Lys Asp Ser Phe Gly Gly
 930 935 940
 Gly Ala Ile Tyr Thr Gln Asn Leu Lys Ile Val Lys Asn Ala Gly Asn
 945 950 955 960
 Val Ser Phe Tyr Gly Asn Arg Ala Pro Ser Gly Ala Gly Val Gln Ile
 965 970 975
 Ala Asp Gly Gly Thr Val Cys Leu Glu Ala Phe Gly Gly Asp Ile Leu
 980 985 990
 Phe Glu Gly Asn Ile Asn Phe Asp Gly Ser Phe Asn Ala Ile His Leu
 995 1000 1005
 Cys Gly Asn Asp Ser Lys Ile Val Glu Leu Ser Ala Val Gln Asp Lys
 1010 1015 1020
 Asn Ile Ile Phe Gln Asp Ala Ile Thr Tyr Glu Glu Asn Thr Ile Arg
 1025 1030 1035 1040
 Gly Leu Pro Asp Lys Asp Val Ser Pro Leu Ser Ala Pro Ser Leu Ile
 1045 1050 1055
 Phe Asn Ser Lys Pro Gln Asp Asp Ser Ala Gln His His Glu Gly Thr
 1060 1065 1070
 Ile Arg Phe Ser Arg Gly Val Ser Lys Ile Pro Gln Ile Ala Ala Ile
 1075 1080 1085
 Gln Glu Gly Thr Leu Ala Leu Ser Gln Asn Ala Glu Leu Trp Leu Ala
 1090 1095 1100
 Gly Leu Lys Gln Glu Thr Gly Ser Ser Ile Val Leu Ser Ala Gly Ser
 1105 1110 1115 1120
 Ile Leu Arg Ile Phe Asp Ser Gln Val Asp Ser Ser Ala Pro Leu Pro
 1125 1130 1135
 Thr Glu Asn Lys Glu Glu Thr Leu Val Ser Ala Gly Val Gln Ile Asn
 1140 1145 1150
 Met Ser Ser Pro Thr Pro Asn Lys Asp Lys Ala Val Asp Thr Pro Val
 1155 1160 1165
 Leu Ala Asp Ile Ile Ser Ile Thr Val Asp Leu Ser Ser Phe Val Pro
 1170 1175 1180
 Glu Gln Asp Gly Thr Leu Pro Leu Pro Pro Glu Ile Ile Ile Pro Lys
 1185 1190 1195 1200
 Gly Thr Lys Leu His Ser Asn Ala Ile Asp Leu Lys Ile Ile Asp Pro
 1205 1210 1215
 Thr Asn Val Gly Tyr Glu Asn His Ala Leu Leu Ser Ser His Lys Asp
 1220 1225 1230
 Ile Pro Leu Ile Ser Leu Lys Thr Ala Glu Gly Met Thr Gly Thr Pro
 1235 1240 1245
 Thr Ala Asp Ala Ser Leu Ser Asn Ile Lys Ile Asp Val Ser Leu Pro
 1250 1255 1260
 Ser Ile Thr Pro Ala Thr Tyr Gly His Thr Gly Val Trp Ser Glu Ser
 1265 1270 1275 1280
 Lys Met Glu Asp Gly Arg Leu Val Val Gly Trp Gln Pro Thr Gly Tyr
 1285 1290 1295
 Lys Leu Asn Pro Glu Lys Gln Gly Ala Leu Val Leu Asn Asn Leu Trp
 1300 1305 1310
 Ser His Tyr Thr Asp Leu Arg Ala Leu Lys Gln Glu Ile Phe Ala His
 1315 1320 1325

His Thr Ile Ala Gln Arg Met Glu Leu Asp Phe Ser Thr Asn Val Trp
 1330 1335 1340
 Gly Ser Gly Leu Gly Val Glu Asp Cys Gln Asn Ile Gly Glu Phe
 1345 1350 1355 1360
 Asp Gly Phe Lys His His Leu Thr Gly Tyr Ala Leu Gly Leu Asp Thr
 1365 1370 1375
 Gln Leu Val Glu Asp Phe Leu Ile Gly Gly Cys Phe Ser Gln Phe Phe
 1380 1385 1390
 Gly Lys Thr Glu Ser Gln Ser Tyr Lys Ala Lys Asn Asp Val Lys Ser
 1395 1400 1405
 Tyr Met Gly Ala Ala Tyr Ala Gly Ile Leu Ala Gly Pro Trp Leu Ile
 1410 1415 1420
 Lys Gly Ala Phe Val Tyr Gly Asn Ile Asn Asn Asp Leu Thr Thr Asp
 1425 1430 1435 1440
 Tyr Gly Thr Leu Gly Ile Ser Thr Gly Ser Trp Ile Gly Lys Gly Phe
 1445 1450 1455
 Ile Ala Gly Thr Ser Ile Asp Tyr Arg Tyr Ile Val Asn Pro Arg Arg
 1460 1465 1470
 Phe Ile Ser Ala Ile Val Ser Thr Val Val Pro Phe Val Glu Ala Glu
 1475 1480 1485
 Tyr Val Arg Ile Asp Leu Pro Glu Ile Ser Glu Gln Gly Lys Glu Val
 1490 1495 1500
 Arg Thr Phe Gln Lys Thr Arg Phe Glu Asn Val Ala Ile Pro Phe Gly
 1505 1510 1515 1520
 Phe Ala Leu Glu His Ala Tyr Ser Arg Gly Ser Arg Ala Glu Val Asn
 1525 1530 1535
 Ser Val Gln Leu Ala Tyr Val Phe Asp Val Tyr Arg Lys Gly Pro Val
 1540 1545 1550
 Ser Leu Ile Thr Leu Lys Asp Ala Ala Tyr Ser Trp Lys Ser Tyr Gly
 1555 1560 1565
 Val Asp Ile Pro Cys Lys Ala Trp Lys Ala Arg Leu Ser Asn Asn Thr
 1570 1575 1580
 Glu Trp Asn Ser Tyr Leu Ser Thr Tyr Leu Ala Phe Asn Tyr Glu Trp
 1585 1590 1595 1600
 Arg Glu Asp Leu Ile Ala Tyr Asp Phe Asn Gly Gly Ile Arg Ile Ile
 1605 1610 1615
 Phe

<210> 966
 <211> 504
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0964

<400> 966
 Gln Ser Ile Leu Glu Ser Ile Ile Lys Tyr Phe Tyr Leu Ile His Asn
 1 5 10 15
 Ser Lys Met His Met Ser Asn Pro Ile Ser Leu Phe Ser Pro Ala Glu
 20 25 30
 Leu Ile Ala Lys Tyr Asn Leu Ile Pro Lys Thr Ser Pro Ile Tyr Pro
 35 40 45
 Arg Arg Thr Glu Leu Ile Ile Leu Glu Glu Asn Ala Cys Gln Thr Arg
 50 55 60
 Leu Thr Asn Val Ala Gln Val Leu His Pro Ser Ser Leu Phe Ser Met
 65 70 75 80
 Ser Lys Lys Ile Leu Asn Pro Cys Gly Cys Ser Gly Gly Pro Leu Cys
 85 90 95

Trp Val Ile Leu Asn Ile Leu Ala Phe Ile Ile Thr Ser Val Leu Phe
 100 105 110
 Ile Ile Leu Leu Pro Val Asn Leu Ile Val Ala Gly Leu Arg Leu Phe
 115 120 125
 Met Pro Leu Pro Pro Lys Lys Ile Val Glu Asp Leu Ser Glu Pro Thr
 130 135 140
 Thr Glu Glu Thr Asn Glu Val Ile Gln Pro Phe Ile Phe Ala Leu Gln
 145 150 155 160
 Ala Leu Leu Phe Glu Asp Asn Lys Leu Arg Ser Phe Lys Ile Val Glu
 165 170 175
 Gln Ser Val Gly Lys Ala Pro Leu Pro Asn Pro Phe Leu Asn Arg Leu
 180 185 190
 Val Ala Ile Ser Pro Gln Glu Ser Gln Glu Ala Met Arg Lys Ile Pro
 195 200 205
 Asp Leu Cys Ser Gln Leu Lys Lys Val Leu Lys Ser Leu Gly Val Leu
 210 215 220
 Thr Pro Glu Trp Lys His Met Leu Lys Tyr Phe Glu Gly Leu Lys Asn
 225 230 235 240
 Glu His Asp Ser Asn Pro Asp Lys Lys Thr Phe Pro Ile Leu Ile Lys
 245 250 255
 Leu Leu Ile Glu Ala Leu Thr Gly Lys Ser Ser Leu Pro Lys Thr Pro
 260 265 270
 Ser Thr Lys Glu Lys Met Gln Ala Ala Leu Phe Ile Ala Ser Ser Cys
 275 280 285
 Lys Thr Cys Lys Pro Thr Trp Gly Glu Val Ile Thr Arg Ser Leu Asn
 290 295 300
 Arg Leu Tyr Ser Ile Ala Asn Glu Gly Asp Asn Gln Leu Leu Ile Trp
 305 310 315 320
 Val Gln Glu Phe Lys Glu Arg Glu Leu Met Ser Ile Gln Asp Gly Asp
 325 330 335
 Asp Ala Glu Glu Tyr Arg Phe Ala Ala Gln Gln His Gly Glu Arg Tyr
 340 345 350
 Thr Glu Ala Ile Glu Gln Val Leu Arg Asn Glu Ser Ala Ala Lys Leu
 355 360 365
 Gln Trp His Val Ile Asn Thr Met Lys Phe Phe His Gly Lys Asn Leu
 370 375 380
 Gly Leu Val Thr Glu His Leu Gln Asp Thr Leu Gly Ala Leu Thr Leu
 385 390 395 400
 Arg Gln Thr Thr Val Asp Thr His Gln Gly Arg Glu Asp Ala Asp Leu
 405 410 415
 Ser Ala Ala Leu Phe Leu Asn Lys Tyr Leu Asn Ser Gly Asn Gln Leu
 420 425 430
 Val Asn Ser Val Phe Lys Ser Met Gln Lys Ala Asp Pro Glu Thr Lys
 435 440 445
 Ala Leu Ile Arg Glu Phe Ala Leu Asp Ile Leu Tyr Ala Ser Leu Arg
 450 455 460
 Leu Pro Gln Thr Ser Ala His Thr Glu Val Phe Ser Thr Leu Leu Met
 465 470 475 480
 Asp Pro Glu Thr Tyr Glu Pro Asn Lys Ala Cys Ile Ala Tyr Leu Leu
 485 490 495
 Tyr Val Leu Lys Ile Ile Glu Leu
 500

<210> 967
 <211> 615
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0965

<400> 967

Lys Gly Phe Ser Phe Ser Lys Val Gly Leu Asn Met Ile Pro Ser Gly
1 5 10 15
Leu Val Tyr Leu Leu Tyr Pro Leu Gly Phe Leu Ala Ser Leu Phe Phe
20 25 30
Gly Ser Ala Phe Ser Ile Gln Trp Trp Leu Ser Lys Lys Arg Lys Glu
35 40 45
Val Tyr Ala Pro Arg Ser Phe Trp Ile Leu Ser Ser Ile Gly Ala Thr
50 55 60
Leu Met Ile Val His Gly Thr Ile Gln Ser Gln Phe Pro Val Thr Val
65 70 75 80
Leu His Val Ile Asn Leu Ile Ile Tyr Leu Arg Asn Leu Asn Ile Thr
85 90 95
Ser Ser Arg Pro Ile Ser Phe Arg Ala Thr Leu Val Leu Met Ala Leu
100 105 110
Ser Val Val Phe Val Thr Leu Pro Phe Leu Tyr Val Asn Met Glu Trp
115 120 125
Met Ala Ser Pro Asn Ile Phe His Leu Pro Leu Pro Pro Ala Gln Leu
130 135 140
Ser Trp His Leu Ile Gly Cys Leu Gly Leu Ala Ile Phe Ser Gly Arg
145 150 155 160
Phe Leu Ile Gln Trp Phe Tyr Ile Glu Ser Asn Asn Thr Lys Asp Phe
165 170 175
Pro Leu Leu Phe Trp Lys Ile Gly Leu Leu Gly Gly Leu Leu Ala Leu
180 185 190
Val Tyr Phe Ile Arg Ile Gly Asp Pro Ile Asn Ile Leu Cys Tyr Gly
195 200 205
Cys Gly Leu Phe Pro Ser Ile Ala Asn Leu Arg Leu Phe Tyr Lys Glu
210 215 220
Gln Arg Ser Thr Pro Tyr Leu Asp Thr His Cys Phe Leu Ser Ala Gly
225 230 235 240
Glu Ala Ser Gly Asp Ile Leu Gly Gly Lys Leu Ile Gln Ser Ile Lys
245 250 255
Ser Leu Tyr Pro Asn Ile Arg Phe Trp Gly Val Gly Gly Pro Ala Met
260 265 270
Arg Gln Glu Gly Leu Gln Pro Ile Leu Asn Met Glu Glu Phe Gln Val
275 280 285
Ser Gly Phe Ala Glu Val Leu Gly Ser Leu Phe Arg Leu Tyr Arg Asn
290 295 300
Tyr Arg Lys Ile Leu Lys Thr Ile Leu Lys His Lys Pro Ala Thr Leu
305 310 315 320
Ile Phe Ile Asp Phe Pro Asp Phe His Leu Leu Leu Ile Lys Lys Leu
325 330 335
Arg Lys His Gly Tyr Arg Gly Lys Ile Ile His Tyr Val Cys Pro Ser
340 345 350
Ile Trp Ala Trp Arg Pro Lys Arg Lys Arg Ile Leu Glu Gln His Leu
355 360 365
Asp Met Leu Leu Leu Ile Leu Pro Phe Glu Glu Gly Leu Phe Lys Asn
370 375 380
Thr Ser Leu Glu Thr Val Tyr Leu Gly His Pro Leu Val Glu Glu Ile
385 390 395 400
Ser Asp Tyr Lys Glu Gln Ala Ser Trp Lys Glu Lys Phe Leu Asn Ser
405 410 415
Asp Arg Pro Ile Val Ala Ala Phe Pro Gly Ser Arg Arg Gly Asp Ile
420 425 430
Ser Arg Asn Leu Arg Ile Gln Val Gln Ala Phe Leu Asn Ser Ser Leu
435 440 445
Ser Gln Thr His Gln Phe Val Val Ser Ser Ser Ser Ala Lys Tyr Asp
450 455 460
Glu Ile Ile Glu Asp Thr Leu Lys Ala Glu Gly Cys Gln His Ser Gln
465 470 475 480

Ile Ile Pro Met Asn Phe Arg Tyr Glu Leu Met Arg Ser Cys Asp Cys
 485 490 495
 Ala Leu Ala Lys Cys Gly Thr Ile Val Leu Glu Thr Ala Leu Asn Gln
 500 505 510
 Thr Pro Thr Ile Val Met Cys Arg Leu Arg Pro Phe Asp Thr Phe Leu
 515 520 525
 Ala Lys Tyr Ile Phe Lys Ile Leu Leu Pro Ala Tyr Ser Leu Pro Asn
 530 535 540
 Ile Ile Met Asn Ser Val Ile Phe Pro Glu Phe Ile Gly Gly Lys Lys
 545 550 555 560
 Asp Phe His Pro Glu Glu Ile Ala Thr Ala Leu Asp Leu Leu Asn Gln
 565 570 575
 His Gly Ser Lys Glu Lys Gln Lys Glu Asp Cys Arg Lys Leu Cys Lys
 580 585 590
 Val Met Thr Thr Gly Gln Ile Ala Ser Glu Glu Phe Leu Lys Arg Ile
 595 600 605
 Phe Asp Thr Leu Pro Ala Val
 610 615

<210> 968
 <211> 436
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0966

<400> 968
 Leu Leu Ile Thr Ile Ile Met Val Cys Glu Asn Asn Ile Leu Ser Gly
 1 5 10 15
 Arg Gly Leu Glu Leu Leu Lys Lys Lys Ser Asn Ile Thr Leu Thr Pro
 20 25 30
 Thr Ile Tyr Ser Val Ser Asn His Asn Ile Lys Leu Lys Asp Phe Ser
 35 40 45
 Pro His Ala Leu Ser Val Ile Lys Thr Leu Arg Lys Ala Gly Tyr Ile
 50 55 60
 Ala Tyr Ile Val Gly Gly Cys Ile Arg Asp Leu Leu Asn Thr Thr
 65 70 75 80
 Pro Lys Asp Phe Asp Ile Ser Thr Ser Ala Lys Pro Glu Glu Ile Lys
 85 90 95
 Ala Ile Phe Lys Asn Cys Ile Leu Val Gly Lys Arg Phe Arg Leu Ala
 100 105 110
 His Ile Arg Phe Ser Lys Gln Ile Ile Glu Val Ser Thr Phe Arg Ser
 115 120 125
 Gly Ser Thr Asp Glu Asp Val Leu Ile Thr Lys Asp Asn Leu Trp Gly
 130 135 140
 Thr Pro Glu Glu Asp Val Leu Arg Arg Asp Phe Thr Ile Asn Gly Leu
 145 150 155 160
 Phe Tyr Asp Pro Glu His Glu Glu Ile Ile Asp Tyr Thr Gly Gly Val
 165 170 175
 Asn Asp Leu Arg Asn Arg Tyr Leu Arg Thr Ile Gly Asp Pro Phe Thr
 180 185 190
 Arg Phe Lys Gln Asp Pro Val Arg Met Leu Arg Leu Leu Lys Ile Leu
 195 200 205
 Ser Arg Ser Pro Phe Thr Val Glu Thr Gln Thr Gln Glu Ala Leu Ile
 210 215 220
 Ala Cys Arg Gln Glu Leu Ile Lys Ser Ser Gln Ala Arg Val Phe Glu
 225 230 235 240
 Glu Leu Ile Lys Met Leu Asn Ser Gly Ala Ala Lys Asn Phe Phe Gln
 245 250 255

Leu Leu Ile Glu Asn His Leu Leu Glu Ile Leu Phe Pro Tyr Met Asp
 260 265 270
 Lys Ala Phe Arg Leu Asn Arg Ala Leu Glu Glu Gln Thr Ala Thr Tyr
 275 280 285
 Leu Lys Ala Leu Asp Asp Lys Ile Leu Lys Lys Glu Ala Glu Tyr Asp
 290 295 300
 Arg His Gln Leu Met Ala Ile Phe Leu Phe Pro Leu Val Asn Phe Asn
 305 310 315 320
 Val Arg Tyr Lys His Gln Lys His Pro Tyr Leu Ser Leu Thr Ser Val
 325 330 335
 Phe Asp Tyr Ile Lys Asn Phe Leu Glu Gln Phe Phe Ala Asp Ser Phe
 340 345 350
 Thr Ser Cys Ser Lys Lys Asn Phe Ile Leu Thr Ala Leu Ile Leu Gln
 355 360 365
 Met Gln Tyr Arg Leu Thr Pro Leu Ile Pro Thr Lys Lys Ala Leu Phe
 370 375 380
 Phe Asn Lys Lys Leu Leu His His Thr Arg Phe Leu Glu Ala Leu Ser
 385 390 395 400
 Leu Leu Glu Ile Arg Ser Ile Val Tyr Pro Lys Leu Asp Lys Val Tyr
 405 410 415
 Val Ala Trp Ile Arg His His Gln Thr Leu Lys Cys Lys Lys Asp Ser
 420 425 430
 His Ser Gln Lys
 435

<210> 969
 <211> 485
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0967

<400> 969
 Phe Thr Ala Tyr Lys Phe Ala Phe Ile Cys Ala Cys Arg Ser Glu Lys
 1 5 10 15
 Ile Arg Arg Ile Gly Ile Asp Phe Arg Arg Asn Met Gln Gln Ser Val
 20 25 30
 Arg Lys Leu Phe Gly Thr Asp Gly Val Arg Gly Arg Ala Asn Phe Glu
 35 40 45
 Pro Met Thr Val Glu Thr Thr Val Leu Leu Gly Lys Ala Val Ala Arg
 50 55 60
 Val Leu Arg Glu Gly Arg Ser Gly Lys His Arg Val Val Val Gly Lys
 65 70 75 80
 Asp Thr Arg Leu Ser Gly Tyr Met Phe Glu Asn Ala Leu Ile Ala Gly
 85 90 95
 Leu Asn Ser Met Gly Ile Glu Thr Leu Val Leu Gly Pro Ile Pro Thr
 100 105 110
 Pro Gly Val Ala Phe Ile Thr Arg Ala Tyr Arg Ala Asp Ala Gly Ile
 115 120 125
 Met Ile Ser Ala Ser His Asn Pro Tyr Arg Asp Asn Gly Ile Lys Ile
 130 135 140
 Phe Ser Leu Glu Gly Phe Lys Ile Ser Asp Val Leu Glu Gln Arg Ile
 145 150 155 160
 Glu Thr Met Val Ser Glu Ala Asp Phe Gly Pro Leu Pro Glu Asp His
 165 170 175
 Ala Val Gly Lys Asn Lys Arg Val Ile Asp Ala Met Gly Arg Tyr Val
 180 185 190
 Glu Phe Val Lys Ala Thr Phe Pro Lys Gly Arg Thr Leu Lys Gly Leu
 195 200 205

Lys Ile Val Leu Asp Cys Ala His Gly Ala Ser Tyr Lys Val Ala Pro
 210 215 220
 Ser Val Phe Glu Glu Leu Asp Ala Glu Val Ile Cys Tyr Gly Cys Glu
 225 230 235 240
 Pro Thr Gly Ile Asn Ile Asn Glu His Cys Gly Ala Leu Phe Pro Gln
 245 250 255
 Val Ile Gln Lys Ala Val Ile Glu His Gln Ala His Leu Gly Ile Ala
 260 265 270
 Leu Asp Gly Asp Gly Asp Arg Ile Ile Met Val Asp Glu Lys Gly His
 275 280 285
 Ile Val Asp Gly Asp Met Ile Leu Ser Ile Cys Ala Gly Asp Leu Lys
 290 295 300
 Lys Arg Ser Ala Leu Pro His Asn Arg Val Val Ala Thr Ile Met Thr
 305 310 315 320
 Asn Phe Gly Val Leu Lys Tyr Leu Glu Gly Leu Gly Leu Gln Val Phe
 325 330 335
 Thr Ser Pro Val Gly Asp Arg His Val Leu His Ala Met Leu Glu His
 340 345 350
 Glu Val Thr Leu Gly Gly Glu Gln Ser Gly His Met Ile Phe Leu Asp
 355 360 365
 Tyr Asn Thr Thr Gly Asp Gly Ile Val Ser Ala Leu Gln Val Leu Arg
 370 375 380
 Ile Met Ile Glu Ser Glu Ser Met Leu Ser Asp Leu Thr Ala Pro Ile
 385 390 395 400
 Val Lys Ser Pro Gln Thr Leu Ile Asn Val Ala Val Arg Glu Lys Ile
 405 410 415
 Pro Leu Glu Thr Ile Pro Leu Ile Glu Arg Thr Leu Arg Asp Val Gln
 420 425 430
 Asp Ala Leu Gly Pro Ser Gly Arg Ile Leu Leu Arg Tyr Ser Gly Thr
 435 440 445
 Glu Asn Ile Cys Arg Val Met Val Glu Gly His Lys Lys His Gln Val
 450 455 460
 Asp Cys Leu Ala Lys Ala Leu Ala Asp Val Ile Asp Ala Glu Leu Gly
 465 470 475 480
 Thr Gly Ser Arg Glu
 485

<210> 970
 <211> 611
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0968

<400> 970
 Asp Arg Met Cys Gly Ile Phe Gly Tyr Leu Gly Asn Gln Asp Gly Val
 1 5 10 15
 Ser Ile Val Leu Glu Gly Leu Ala Lys Leu Glu Tyr Arg Gly Tyr Asp
 20 25 30
 Ser Ala Gly Leu Ala Ala Val Val Glu Gln Glu Leu Phe Ile Arg Lys
 35 40 45
 Thr Val Gly Arg Val Gln Glu Leu Ser Asn Leu Phe Gln Glu Arg Glu
 50 55 60
 Ile Pro Thr Ala Ser Val Ile Gly His Thr Arg Trp Ala Thr His Gly
 65 70 75 80
 Val Pro Thr Glu Ile Asn Ala His Pro His Val Asp Glu Gly Arg Ser
 85 90 95
 Cys Ala Val Val His Asn Gly Ile Ile Glu Asn Phe Lys Glu Leu Arg
 100 105 110

Arg Glu Leu Thr Ala Gln Gly Ile Ser Phe Ala Ser Asp Thr Asp Ser
 115 120 125
 Glu Ile Ile Val Gln Leu Phe Ser Leu Tyr Tyr Gln Glu Ser Gln Asp
 130 135 140
 Leu Val Phe Ser Phe Cys Gln Thr Leu Ala Gln Leu Arg Gly Ser Val
 145 150 155 160
 Ala Cys Ala Leu Ile His Lys Asp His Pro His Thr Ile Leu Cys Ala
 165 170 175
 Ser Gln Glu Ser Pro Leu Ile Leu Gly Leu Gly Lys Glu Glu Thr Phe
 180 185 190
 Ile Ala Ser Asp Ser Arg Ala Phe Lys Tyr Thr Arg His Ser Gln
 195 200 205
 Ala Leu Ala Ser Gly Glu Phe Ala Ile Val Ser Gln Gly Lys Glu Pro
 210 215 220
 Glu Val Tyr Asn Leu Glu Leu Lys Lys Ile His Lys Asp Val Arg Gln
 225 230 235 240
 Ile Thr Cys Ser Glu Asp Ala Ser Asp Lys Ser Gly Tyr Gly Tyr Tyr
 245 250 255
 Met Leu Lys Glu Ile Tyr Asp Gln Pro Glu Val Leu Glu Gly Leu Ile
 260 265 270
 Gln Lys His Met Asp Glu Glu Gly His Ile Leu Ser Glu Phe Leu Ser
 275 280 285
 Asp Val Pro Ile Lys Ser Phe Lys Glu Ile Thr Ile Val Ala Cys Gly
 290 295 300
 Ser Ser Tyr His Ala Gly Tyr Leu Ala Lys Tyr Ile Ile Glu Ser Leu
 305 310 315 320
 Val Ser Thr Pro Val His Ile Glu Val Ala Ser Glu Phe Arg Tyr Arg
 325 330 335
 Arg Pro Tyr Ile Gly Lys Asp Thr Leu Gly Ile Leu Ile Ser Gln Ser
 340 345 350
 Gly Glu Thr Ala Asp Thr Leu Ala Ala Leu Lys Glu Leu Arg Arg Arg
 355 360 365
 Asn Ile Ala Tyr Leu Leu Gly Ile Cys Asn Val Pro Glu Ser Ala Ile
 370 375 380
 Ala Leu Gly Val Asp His Cys Leu Phe Leu Glu Ala Gly Val Glu Ile
 385 390 395 400
 Gly Val Ala Thr Thr Lys Ala Phe Thr Ser Gln Leu Leu Leu Val
 405 410 415
 Phe Leu Gly Leu Lys Leu Ala Asn Val His Gly Ala Leu Thr His Ala
 420 425 430
 Glu Gln Cys Ser Phe Gly Gln Gly Leu Gln Ser Leu Pro Asp Leu Cys
 435 440 445
 Gln Lys Leu Leu Ala Asn Glu Ser Leu His Ser Trp Ala Gln Pro Tyr
 450 455 460
 Ser Tyr Glu Asp Lys Phe Leu Phe Leu Gly Arg Arg Leu Met Tyr Pro
 465 470 475 480
 Val Val Met Glu Ala Ala Leu Lys Leu Lys Glu Ile Ala Tyr Ile Glu
 485 490 495
 Ala Asn Ala Tyr Pro Gly Gly Glu Met Lys His Gly Pro Ile Ala Leu
 500 505 510
 Ile Ser Lys Gly Thr Pro Val Ile Ala Phe Cys Gly Asp Ile Val
 515 520 525
 Tyr Glu Lys Met Ile Gly Asn Met Met Glu Val Lys Ala Arg His Ala
 530 535 540
 His Val Ile Ala Ile Ala Pro Glu Ser Arg Glu Asp Ile Ala Ala Val
 545 550 555 560
 Ser Asp Gln Gln Ile Phe Val Pro Asp Cys His Phe Leu Ala Ala Pro
 565 570 575
 Val Leu Tyr Thr Ile Val Gly Gln Val Met Ala Tyr Ala Met Ala Leu
 580 585 590

Ala Lys Gly Met Glu Ile Asp Cys Pro Arg Asn Leu Ala Lys Ser Val
 595 600 605
 Thr Val Glu
 610

<210> 971
 <211> 399
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0969 and CPn0970

<400> 971
 Val Tyr Val Met Ser Asn Lys Val Leu Gly Gly Ser Leu Leu Ile Ala
 1 5 10 15
 Gly Ser Ala Ile Gly Ala Gly Val Leu Ala Val Pro Val Leu Thr Ala
 20 25 30
 Lys Gly Gly Phe Phe Pro Ala Thr Phe Leu Tyr Ile Val Ser Trp Leu
 35 40 45
 Phe Ser Met Ala Ser Gly Leu Cys Leu Leu Glu Val Met Thr Trp Met
 50 55 60
 Lys Glu Ser Lys Asn Pro Val Asn Met Leu Ser Met Ala Glu Ser Ile
 65 70 75 80
 Leu Gly His Val Gly Lys Ile Ser Ile Cys Leu Val Tyr Leu Phe Leu
 85 90 95
 Phe Tyr Ser Leu Ile Ala Tyr Phe Cys Glu Gly Gly Asn Ile Leu
 100 105 110
 Cys Arg Val Phe Asn Cys Gln Asn Leu Gly Ile Ser Trp Ile Arg His
 115 120 125
 Leu Gly Pro Leu Gly Phe Ala Ile Leu Met Gly Pro Ile Ile Met Ala
 130 135 140
 Gly Thr Lys Val Ile Asp Tyr Cys Asn Arg Phe Phe Met Phe Gly Leu
 145 150 155 160
 Thr Val Ala Phe Gly Ile Phe Cys Ala Leu Gly Phe Leu Lys Ile Gln
 165 170 175
 Pro Ser Phe Leu Val Arg Ser Ser Trp Leu Thr Thr Ile Asn Ala Phe
 180 185 190
 Pro Val Phe Phe Leu Ala Phe Gly Phe Gln Ser Ile Ile Pro Thr Leu
 195 200 205
 Tyr Tyr Tyr Met Asp Lys Lys Val Gly Asp Val Lys Lys Ala Ile Leu
 210 215 220
 Ile Gly Thr Leu Ile Pro Leu Val Leu Tyr Val Leu Trp Glu Val Val
 225 230 235 240
 Val Leu Gly Ala Val Ser Leu Pro Ile Leu Ser Gln Ala Lys Ile Gly
 245 250 255
 Gly Tyr Thr Ala Val Glu Ala Leu Lys Gln Ala His Arg Ser Trp Ala
 260 265 270
 Phe Tyr Ile Ala Gly Glu Leu Phe Gly Phe Phe Ala Leu Val Ser Ser
 275 280 285
 Phe Val Gly Val Ala Leu Gly Val Met Asp Phe Leu Ala Asp Gly Leu
 290 295 300
 Lys Trp Asn Lys Lys Ser His Pro Phe Ser Ile Phe Phe Leu Thr Phe
 305 310 315 320
 Ile Ile Pro Leu Ala Trp Ala Val Cys Tyr Pro Glu Ile Val Leu Thr
 325 330 335
 Cys Leu Lys Tyr Ala Gly Gly Phe Gly Ala Ala Val Ile Ile Gly Val
 340 345 350
 Phe Pro Thr Leu Ile Val Trp Lys Gly Arg Tyr Gly Lys Gln His His
 355 360 365

Arg Glu Lys Gln Leu Val Pro Gly Gly Lys Phe Ala Leu Phe Leu Met
 370 375 380
 Phe Leu Leu Ile Val Ile Asn Val Val Ser Ile Tyr His Glu Leu
 385 390 395

<210> 972
 <211> 241
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0971

<400> 972
 Glu Gly Ser Met Gly Leu Tyr Asp Arg Asp Tyr Ile Gln Asp Ser Arg
 1 5 10 15
 Val Gln Gly Thr Phe Ala Ser Arg Val Tyr Gly Trp Met Thr Ala Gly
 20 25 30
 Leu Ile Val Thr Ser Cys Val Ala Leu Gly Leu Tyr Phe Ser Gly Leu
 35 40 45
 Tyr Arg Ser Leu Phe Ser Phe Trp Trp Val Trp Cys Phe Ala Thr Leu
 50 55 60
 Gly Val Ser Phe Phe Ile Asn Ser Lys Ile Gln Thr Leu Ser Val Ser
 65 70 75 80
 Ala Val Gly Gly Leu Phe Leu Leu Tyr Ser Thr Leu Glu Gly Met Phe
 85 90 95
 Phe Gly Thr Leu Leu Pro Val Tyr Ala Ala Gln Tyr Gly Gly Gly Val
 100 105 110
 Ile Trp Ala Ala Phe Gly Ser Ala Ala Leu Val Phe Gly Leu Ala Ala
 115 120 125
 Val Tyr Gly Ala Phe Thr Lys Ser Asp Leu Thr Lys Ile Ser Lys Ile
 130 135 140
 Met Thr Phe Ala Leu Ile Gly Leu Leu Leu Val Thr Leu Val Phe Ala
 145 150 155 160
 Val Val Ser Met Phe Val Ser Met Pro Leu Ile Tyr Leu Leu Ile Cys
 165 170 175
 Tyr Leu Gly Leu Val Ile Phe Val Gly Leu Thr Ala Ala Asp Ala Gln
 180 185 190
 Ala Ile Arg Arg Ile Ser Ser Thr Ile Gly Asp Asn Asn Thr Leu Ser
 195 200 205
 Tyr Lys Leu Ser Leu Met Phe Ala Leu Lys Met Tyr Cys Asn Val Ile
 210 215 220
 Met Val Phe Trp Tyr Leu Leu Gln Ile Phe Ser Ser Ser Gly Asn Arg
 225 230 235 240
 Asp

<210> 973
 <211> 316
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0972

<400> 973
 Arg Cys Ile Asn Asn Ser Leu Leu Phe Pro Ser Tyr Leu Val Ser Phe
 1 5 10 15
 Leu Leu Leu Gln Leu Thr Leu Leu Leu Ala Met Phe Lys Phe Phe Arg
 20 25 30

Asn Lys Leu Gln Ser Leu Phe Lys Lys Asn Ile Ser Leu Asp Leu Ile
 35 40 45
 Glu Asp Ala Glu Ser Leu Phe Tyr Glu Ala Asp Phe Gly Thr Glu Leu
 50 55 60
 Thr Glu Glu Leu Cys Ala Arg Leu Arg Arg Thr Lys Lys Ala Asp Ala
 65 70 75 80
 Ser Thr Ile Lys Asp Leu Ile Thr Val Leu Leu Arg Glu Ser Leu Glu
 85 90 95
 Gly Leu Pro Ser Gln Ala Ser Gln Ser Ser Gln Thr Arg Pro Ile Val
 100 105 110
 Ser Leu Leu Leu Gly Thr Asn Gly Ser Gly Lys Thr Thr Thr Ala Ala
 115 120 125
 Lys Leu Ala His Tyr Tyr Lys Glu Arg Ser Glu Ser Val Met Leu Val
 130 135 140
 Ala Thr Asp Thr Phe Arg Ala Ala Gly Met Asp Gln Ala Arg Leu Trp
 145 150 155 160
 Ala Asn Glu Leu Gly Cys Gly Phe Val Ser Gly Gln Pro Gly Gly Asp
 165 170 175
 Ala Ala Ala Ile Ala Phe Asp Gly Ile Gln Ser Ala Ile Ala Arg Gly
 180 185 190
 Tyr Ser Arg Val Ile Ile Asp Thr Ser Gly Arg Leu His Val His Gly
 195 200 205
 Asn Leu Met Lys Glu Leu Ser Lys Ile Val Ser Val Cys Gly Lys Ala
 210 215 220
 Leu Glu Gly Ala Pro His Glu Ile Phe Met Thr Val Asp Ser Thr Leu
 225 230 235 240
 Gly Asn Asn Ala Ile Glu Gln Val Arg Val Phe His Asp Val Val Pro
 245 250 255
 Leu Ser Gly Leu Ile Phe Thr Lys Val Asp Gly Ser Ala Lys Gly Gly
 260 265 270
 Thr Leu Phe Gln Ile Ala Lys Arg Leu Lys Ile Pro Thr Lys Phe Ile
 275 280 285
 Gly Tyr Gly Glu Ser Leu Lys Asp Leu Asn Glu Phe Asp Leu Asp Leu
 290 295 300
 Phe Leu Asn Lys Leu Phe Pro Glu Val Glu Lys Ile
 305 310 315

<210> 974

<211> 394

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0973

<400> 974

Glu Gly Lys Ser Lys Glu Leu Phe Met His Leu His Glu Tyr Gln Ala
 1 5 10 15
 Lys Asp Leu Leu Ala Ser Tyr Asp Val Pro Ile Pro Pro Tyr Trp Val
 20 25 30
 Val Ser Ser Glu Glu Glu Gly Glu Leu Leu Ile Thr Lys Ser Gly Leu
 35 40 45
 Asp Ser Ala Val Val Lys Val Gln Val His Ala Gly Gly Arg Gly Lys
 50 55 60
 His Gly Gly Val Ile Val Ala Lys Ser Ser Ala Gly Ile Leu Gln Ala
 65 70 75 80
 Val Ala Lys Leu Leu Gly Met His Phe Thr Ser Asn Gln Thr Ala Asp
 85 90 95
 Gly Phe Leu Pro Val Glu Lys Val Leu Ile Ser Pro Leu Val Ala Ile
 100 105 110

Gln Arg Glu Tyr Tyr Val Ala Val Ile Met Asp Arg Lys His Arg Cys
 115 120 125
 Pro Val Leu Met Leu Ser Lys Ala Gly Gly Met Asp Ile Glu Glu Val
 130 135 140
 Ala His Ser Ser Pro Glu Gln Ile Leu Thr Leu Pro Leu Thr Ser Tyr
 145 150 155 160
 Gly His Ile Tyr Ser Tyr Gln Leu Arg Gln Ala Thr Lys Phe Met Glu
 165 170 175
 Trp Glu Gly Glu Val Met His Gln Gly Val Gln Leu Ile Lys Lys Leu
 180 185 190
 Ala Lys Cys Phe Tyr Glu Asn Asp Val Ser Leu Leu Glu Ile Asn Pro
 195 200 205
 Leu Val Leu Thr Leu Glu Gly Glu Leu Leu Val Leu Asp Ser Lys Ile
 210 215 220
 Thr Ile Asp Asp Asn Ala Leu Tyr Arg His Pro Asn Leu Glu Val Leu
 225 230 235 240
 Tyr Asp Pro Ser Gln Glu Asn Val Arg Asp Val Leu Ala Lys Gln Ile
 245 250 255
 Gly Leu Ser Tyr Ile Ala Leu Ser Gly Asn Ile Gly Cys Ile Val Asn
 260 265 270
 Gly Ala Gly Leu Ala Met Ser Thr Leu Asp Ile Leu Lys Leu His Gly
 275 280 285
 Gly Asn Ala Ala Asn Phe Leu Asp Val Gly Gly Glu Ala Ser Gln Lys
 290 295 300
 Gln Ile Gln Glu Ala Val Ser Leu Val Leu Ser Asp Glu Ser Val Lys
 305 310 315 320
 Val Leu Phe Ile Asn Ile Phe Gly Gly Ile Met Asp Cys Ser Val Val
 325 330 335
 Ala Ser Gly Leu Val Ala Val Met Glu Thr Arg Asp Gln Val Val Pro
 340 345 350
 Thr Val Ile Arg Leu Glu Gly Thr Asn Val Glu Leu Gly Lys Glu Ile
 355 360 365
 Val Gln Gln Ser Gly Ile Pro Cys Gln Phe Val Ser Ser Met Glu Glu
 370 375 380
 Gly Ala Arg Arg Ala Val Glu Leu Ser Met
 385 390

<210> 975
 <211> 300
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0974

<400> 975
 Val Cys Arg Phe Arg Arg Tyr Met Phe His Ser Leu Ser Lys Asn Thr
 1 5 10 15
 Pro Ile Ile Thr Gln Gly Ile Thr Gly Lys Ala Gly Ser Phe His Thr
 20 25 30
 Glu Gln Cys Leu Ala Tyr Gly Thr Asn Phe Val Gly Gly Val Thr Pro
 35 40 45
 Gly Lys Gly Gly Thr Leu Trp Leu Asp Leu Pro Val Tyr Asp Ser Val
 50 55 60
 Leu Glu Ala Lys Gln Ala Thr Gly Cys Arg Ala Thr Met Ile Phe Val
 65 70 75 80
 Pro Pro Pro Tyr Ala Ala Glu Ala Ile Leu Glu Ala Glu Glu Ala Gly
 85 90 95
 Ile Glu Leu Ile Val Cys Ile Thr Glu Gly Ile Pro Val Arg Asp Met
 100 105 110

Leu Glu Val Ala Arg Val Met Asp Asn Ser Thr Ser Gln Leu Ile Gly
 115 120 125
 Pro Asn Cys Pro Gly Ile Ile Lys Pro Gly Glu Cys Lys Ile Gly Ile
 130 135 140
 Met Pro Gly Tyr Ile His Leu Pro Gly Asn Ile Gly Val Val Ser Arg
 145 150 155 160
 Ser Gly Thr Leu Thr Tyr Glu Ala Val Trp Gln Leu Thr Gln Leu Lys
 165 170 175
 Ile Gly Gln Ser Ile Cys Val Gly Ile Gly Gly Asp Pro Leu Asn Gly
 180 185 190
 Thr Ser Phe Ile Asp Val Leu Gln Ala Leu Glu Glu Asp Pro Tyr Thr
 195 200 205
 Glu Leu Ile Leu Met Ile Gly Glu Ile Gly Gly Ser Ala Glu Glu Glu
 210 215 220
 Ala Ala Ala Trp Ile Gln Ala His Cys Thr Lys Pro Val Val Ala Phe
 225 230 235 240
 Ile Ala Gly Val Thr Ala Pro Lys Gly Lys Arg Met Gly His Ala Gly
 245 250 255
 Ala Ile Ile Ser Gly Asn Ser Gly Asp Ala Lys Ser Lys Ile Gln Val
 260 265 270
 Leu Arg Glu Ser Gly Val Thr Val Val Glu Ser Pro Ala His Ile Gly
 275 280 285
 Lys Thr Val Asp Ala Val Leu Arg Ala Lys Glu Leu
 290 295 300

<210> 976
 <211> 200
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0975

<400> 976
 Gly Ile Glu Glu Gln Val Ala Leu Ser Ile Ala Ile Lys Ile Leu Lys
 1 5 10 15
 Ile Ile Leu Ala Leu Ile Leu Phe Pro Leu Val Leu Leu Ala Trp Val
 20 25 30
 Ile Arg Tyr Gln Leu His Ala Asn Phe His Cys Ser Val Val Pro Phe
 35 40 45
 Pro Gly Phe Ser Val Asn Gln Ala Tyr Lys Cys Ser Glu Ala Lys Ile
 50 55 60
 Glu Glu Met Leu Asp Leu Leu Asp Leu Glu Thr Leu Glu Trp Ser Ser
 65 70 75 80
 Arg Cys Leu Arg Gln Asp Met Thr Phe Ala Asn Arg Leu Glu Glu Glu
 85 90 95
 Leu Ile Gln Glu Leu Arg Val Ser Glu Thr Glu Glu Leu Ile Ser Leu
 100 105 110
 Gly Gly Lys Arg Asn Leu Val Arg Leu Leu Leu Thr His Phe Phe Asn
 115 120 125
 Pro Pro Lys Arg Ser Arg Val Glu Ser Val Gly His Glu Val Val Phe
 130 135 140
 Pro Val Phe Asp Arg Leu Lys Arg Glu Glu Glu Ile Ile Gly Asp Gly
 145 150 155 160
 Pro Ile Thr Arg Ser Asn Glu Glu Leu Trp Ala Leu Leu Asp His Gly
 165 170 175
 Thr Ala Arg Gly Ile His Lys Thr Leu Trp Phe Ser Ile Phe Phe Lys
 180 185 190
 Tyr Leu Thr Gln Ile Glu Leu Phe
 195 200

<210> 977
 <211> 369
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0976

<400> 977
 Ile Leu Met Leu Val Tyr Cys Phe Asp Pro Ser Val Pro Thr Ser Pro
 1 5 10 15
 Glu His Arg Leu Met Ala Ala Leu Asp Arg Trp Phe Phe Leu Gly Gly
 20 25 30
 His Arg Ala Arg Ile Leu Thr Leu Glu Gly Asn His Tyr Arg Ala Phe
 35 40 45
 Gln Glu Asn Met Ser Ile Ser Thr Val Glu Lys Ile Leu Lys Leu Ile
 50 55 60
 Ser Tyr Leu Leu Ile Pro Ile Val Leu Ile Ala Leu Leu Ile Arg Cys
 65 70 75 80
 Phe Leu His Ser Arg Phe Lys Cys Asn Trp Lys Cys Asp Ser Leu Ser
 85 90 95
 Asp Ala Arg Val Pro His Asp Val Gln Pro Phe Asn Asp Phe Gln Leu
 100 105 110
 Phe Asn Asn Gln Glu Arg Leu Asn Ile Trp Lys Asn Arg Tyr Val
 115 120 125
 Ser Gly Ile Asp Val Leu Met Val Pro Val Asp Tyr Leu Arg Ser Gln
 130 135 140
 Phe Pro Gly Phe Lys Glu Ile Pro Glu Ala Ile Arg Cys Glu Asn Tyr
 145 150 155 160
 Val Ser Asp Gly Gln Phe Ser Glu Glu Ser Lys Thr Ser Tyr Leu Arg
 165 170 175
 Ala Met Leu Thr Asp Ile Val Gly Tyr Ile Leu Ser Leu Asp Glu Thr
 180 185 190
 Tyr Trp Thr Asn Val Ile Leu Lys Ile Arg Ala Met Cys Ile Thr Phe
 195 200 205
 Glu Ser Phe Pro Gly Lys Glu Ala Asp Pro Asn Tyr Ser Pro Arg Val
 210 215 220
 Thr His His Tyr Phe Asp Glu Ser Trp Lys Ala Leu Ala Arg His Val
 225 230 235 240
 Leu Gly Glu Gly Asn Met Val Asn Arg Leu Asp Glu Ala Leu Ile Arg
 245 250 255
 Thr Glu Lys Pro Gly Lys Glu Gly Glu Cys Ile Thr Lys Gln Phe Leu
 260 265 270
 Lys Asp Tyr Cys Lys Lys His Leu Glu Val Met Ser Cys Pro Asp Phe
 275 280 285
 Ile Glu Ser Leu Val Asp Glu Lys Ile Arg Glu Phe Arg Cys Pro Ser
 290 295 300
 Ile Leu Asn Ser Ala Val Cys Asp Val Ile Asp Arg Lys Cys Gln Glu
 305 310 315 320
 His Leu Leu Lys Ala Ile Ile Asn Glu Ala Asn Arg Arg Leu Pro Gly
 325 330 335
 Met Lys Asn Ser Ser Phe Thr Met Arg Gly Asn Gln Val Leu Phe Tyr
 340 345 350
 Thr Ile Phe Ser Pro Pro Lys Leu Pro Pro Ala Ala Ser Ser Val Tyr
 355 360 365
 Phe

<210> 978
 <211> 358
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0977

<400> 978
 Leu Tyr Ile Asn Gln Phe Ala Asn Ile Leu Lys Ser Ser Phe Leu Met
 1 5 10 15
 Glu Val Tyr Ser Phe Ser Pro Ser Val Arg Thr Ser Phe Gln His Arg
 20 25 30
 Val Met Ala Ala Leu Asp Asn Trp Phe Phe Leu Gly Gly Arg Arg Leu
 35 40 45
 Lys Val Val Ser Leu Asp Ser Cys Asn Ser Gly Gln Ala Cys Glu Glu
 50 55 60
 Tyr Val Pro Ile Ser Thr Thr Glu Lys Val Leu Lys Ile Leu Ser Tyr
 65 70 75 80
 Leu Leu Ile Pro Ile Val Ile Ile Ala Leu Leu Ile Arg Tyr Leu Leu
 85 90 95
 His Ser Asn Phe Thr Ala Lys Val Ser Gln Lys Pro Trp Leu Lys Thr
 100 105 110
 Leu Gln Leu Gly Ile Asp Ile Lys Ser Phe Ile Leu Pro Gly Ser His
 115 120 125
 Val Asn Thr Met Asp Ser Ala Thr Leu Phe Lys Ala Ile Arg Leu Glu
 130 135 140
 Gly Lys Arg Val Asp Val Glu Tyr His Arg Leu His Ser Ser Asp Lys
 145 150 155 160
 Val Val Phe Tyr Ile Pro Ala Gln Lys Leu Pro Asp Asp Leu Arg Leu
 165 170 175
 Thr His Trp Leu Pro Glu Lys Glu Thr Arg Lys Thr Glu Tyr Val Arg
 180 185 190
 His Met Leu Ala His Val Met Gly Tyr Leu Thr Ser Gln Gly Lys Glu
 195 200 205
 Arg Leu Gln Gln Val Val Gln Asp Ser Arg Ser Ser Thr Ser Leu Gly
 210 215 220
 Ala Glu Lys Val Leu Gln Tyr Arg Phe Ile Asp His Pro Gln Ser Gln
 225 230 235 240
 Gly Glu Phe Gln Arg Leu Leu Asn Glu Asn Ile Thr Thr Lys Gly Ser
 245 250 255
 Glu Asp Lys Glu Val Val Gln Ser Asp Leu Phe Asp Met Ala Phe Gln
 260 265 270
 Cys Trp Trp Pro Gln Phe Ile Ser Val Ile Gln Ser Pro Thr Phe Ser
 275 280 285
 Glu Glu Leu Val His Glu Met Ser Gln Lys Leu Asp Leu Asp Cys Ile
 290 295 300
 Tyr Pro Glu Asp Asp Glu Phe Glu Gln Lys Phe Leu Asn Thr Leu Leu
 305 310 315 320
 Lys Ala Val Leu His His Gly Phe Glu Gly Ile Ser Val Ala Ser Met
 325 330 335
 Gly Val Ile Phe Leu Ile Cys Pro Asp Ser Leu Ala Leu Gln Ile Pro
 340 345 350
 Phe Leu Arg Asn Gln Lys
 355

<210> 979
 <211> 347
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn0978

<400> 979

Lys Tyr Phe Phe Met Glu Val Tyr Ser Phe His Pro Ala Val Arg Thr
1 5 10 15
Ser Phe Gln His Arg Val Met Ala Ala Leu Asp Ala Trp Phe Phe Leu
20 25 30
Gly Gly His Arg Leu Lys Val Val Ser Leu Asp Ser Cys Asn Ser Gly
35 40 45
Trp Ala Tyr Gln Glu Leu Val Ser Ile Ser Thr Thr Glu Lys Val Leu
50 55 60
Lys Leu Leu Ser Tyr Leu Leu Val Pro Ile Val Ile Ile Ala Leu Leu
65 70 75 80
Ile Arg Cys Leu Leu His Ser Asn Phe Arg Ile Asp Val Glu Lys Glu
85 90 95
Arg Trp Leu Lys Ile Arg Glu Leu Gly Ile Asp Ile Glu Ser Cys Lys
100 105 110
Leu Pro Ser Ser Tyr Val Asn Gln Val Ser Ser Phe Ile Trp Phe Glu
115 120 125
Lys Asp Lys Ser Lys Arg Pro Arg Ile Asp Val Asp Tyr His Thr Leu
130 135 140
His Ser Lys Asp Trp Val Val Phe Pro Ile Val Phe Gln Lys Ile Pro
145 150 155 160
Lys Thr Ser Arg Phe Ser Tyr Trp Phe Ser Gln Lys Glu Thr Arg Lys
165 170 175
Arg Asp Tyr Val Arg Asn Met Leu Asp His Val Ile Gly Tyr Leu Thr
180 185 190
Ser Glu Gly Gly Glu Trp Leu Gln Tyr Ile Ser Lys Thr Ser Tyr Gln
195 200 205
Ser Ala Thr Ser Leu Asp Pro Glu Arg Val Leu Gln Tyr Cys Leu Thr
210 215 220
Asp Asn Gln Glu Leu Gln Gly Glu Val Gln Arg Leu Leu Asn Glu Glu
225 230 235 240
Ser Ala Thr Lys Ser Ser Gly Asp Lys Glu Val Leu Leu Ser His Val
245 250 255
Ser Asp Ile Ile Cys Gln Cys Trp Trp Pro Lys Phe Leu Glu Val Ile
260 265 270
Gln Ser Pro Ala Phe Ile Glu Glu Leu Val Glu Glu Val Ser Gly Lys
275 280 285
Leu Asn Leu Asp Phe Leu Cys Leu Glu Lys Ala Asn Thr Leu Asp Gln
290 295 300
Glu Leu Arg Asn Ser Leu Leu Arg Ala Val Val His His Gly Ser Glu
305 310 315 320
Gly Val Asp Ile Lys Lys Val Gly Ala Gly Leu Ile Ile Tyr Thr Glu
325 330 335
Ala Ile Gln Leu Gln Ile Pro Phe Ser Arg Ser
340 345

<210> 980

<211> 491

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn0979

<400> 980

Gly Ile Asp Met Ile Thr Lys Gln Leu Arg Ser Trp Leu Ala Val Leu
1 5 10 15

Val Gly Ser Ser Leu Leu Ala Leu Pro Leu Ser Gly Gln Ala Val Gly
 20 25 30
 Lys Lys Glu Ser Arg Val Ser Glu Leu Pro Gln Asp Val Leu Leu Lys
 35 40 45
 Glu Ile Ser Gly Gly Phe Ser Lys Val Ala Thr Lys Ala Thr Pro Ala
 50 55 60
 Val Val Tyr Ile Glu Ser Phe Pro Lys Ser Gln Ala Val Thr His Pro
 65 70 75 80
 Ser Pro Gly Arg Arg Gly Pro Tyr Glu Asn Pro Phe Asp Tyr Phe Asn
 85 90 95
 Asp Glu Phe Phe Asn Arg Phe Phe Gly Leu Pro Ser Gln Arg Glu Lys
 100 105 110
 Pro Gln Ser Lys Glu Ala Val Arg Gly Thr Gly Phe Leu Val Ser Pro
 115 120 125
 Asp Gly Tyr Ile Val Thr Asn Asn His Val Val Glu Asp Thr Gly Lys
 130 135 140
 Ile His Val Thr Leu His Asp Gly Gln Lys Tyr Pro Ala Thr Val Ile
 145 150 155 160
 Gly Leu Asp Pro Lys Thr Asp Leu Ala Val Ile Lys Ile Lys Ser Gln
 165 170 175
 Asn Leu Pro Tyr Leu Ser Phe Gly Asn Ser Asp His Leu Lys Val Gly
 180 185 190
 Asp Trp Ala Ile Ala Ile Gly Asn Pro Phe Gly Leu Gln Ala Thr Val
 195 200 205
 Thr Val Gly Val Ile Ser Ala Lys Gly Arg Asn Gln Leu His Ile Ala
 210 215 220
 Asp Phe Glu Asp Phe Ile Gln Thr Asp Ala Ala Ile Asn Pro Gly Asn
 225 230 235 240
 Ser Gly Gly Pro Leu Leu Asn Ile Asp Gly Gln Val Ile Gly Val Asn
 245 250 255
 Thr Ala Ile Val Ser Gly Ser Gly Gly Tyr Ile Gly Ile Gly Phe Ala
 260 265 270
 Ile Pro Ser Leu Met Ala Asn Arg Ile Ile Asp Gln Leu Ile Arg Asp
 275 280 285
 Gly Gln Val Thr Arg Gly Phe Leu Gly Val Thr Leu Gln Pro Ile Asp
 290 295 300
 Ala Glu Leu Ala Ala Cys Tyr Lys Leu Glu Lys Val Tyr Gly Ala Leu
 305 310 315 320
 Val Thr Asp Val Val Lys Gly Ser Pro Ala Asp Lys Ala Gly Leu Lys
 325 330 335
 Gln Glu Asp Val Ile Ile Ala Tyr Asn Gly Lys Glu Val Asp Ser Leu
 340 345 350
 Ser Met Phe Arg Asn Ala Val Ser Leu Met Asn Pro Asp Thr Arg Ile
 355 360 365
 Val Leu Lys Val Val Arg Glu Gly Lys Val Ile Glu Ile Pro Val Thr
 370 375 380
 Val Ser Gln Ala Pro Lys Glu Asp Gly Met Ser Ala Leu Gln Arg Val
 385 390 395 400
 Gly Ile Arg Val Gln Asn Leu Thr Pro Glu Thr Ala Lys Lys Leu Gly
 405 410 415
 Ile Ala Pro Glu Thr Lys Gly Ile Leu Ile Ile Ser Val Glu Pro Gly
 420 425 430
 Ser Val Ala Ala Ser Ser Gly Ile Ala Pro Gly Gln Leu Ile Leu Ala
 435 440 445
 Val Asn Arg Gln Lys Val Ser Ser Ile Glu Asp Leu Asn Arg Thr Leu
 450 455 460
 Lys Asp Ser Asn Asn Glu Asn Ile Leu Leu Met Val Ser Gln Gly Asp
 465 470 475 480
 Val Ile Arg Phe Ile Ala Leu Lys Pro Glu Glu
 485 490

<210> 981
 <211> 495
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0980

<400> 981
 Phe Val Met Leu Asn His Ala Lys Lys His Ala Lys Pro Tyr Val Leu
 1 5 10 15
 Ile Phe Phe Ser Thr Lys Asp Lys Leu Ser Tyr Cys Asp Ile Ile Phe
 20 25 30
 Asn Asn Cys Ser Gly Lys Pro Met Asn Leu Asp Ser Lys His Phe Asp
 35 40 45
 Ile Asn Ser Ala Asn Phe Leu Glu Glu Phe Ala Lys Phe Ile Ser Phe
 50 55 60
 Pro Ser Ile Ser Ala Asp Ser Asp His Leu Gln Asp Cys Glu Asn Cys
 65 70 75 80
 Ala His Phe Leu Val Asp His Val Asn Lys Ile Phe Asp Val Glu Leu
 85 90 95
 Trp Glu Thr Pro Gly His Pro Pro Ile Ile Tyr Ala Ser Tyr Lys Ser
 100 105 110
 Glu Asp Pro Leu Ser Pro Thr Leu Met Leu Tyr Asn His Tyr Asp Val
 115 120 125
 Gln Pro Ala Gln Leu Ser Asp Gly Trp Lys Gly Asp Pro Phe Ile Leu
 130 135 140
 Arg Glu Glu Asn Gly Asn Leu Tyr Ala Arg Gly Ala Ser Asp Asn Lys
 145 150 155 160
 Gly Gln Cys Phe Tyr Thr Leu Lys Ala Leu Gln His Tyr Tyr Glu Ser
 165 170 175
 Gln Gly Asn Phe Pro Leu Asn Ile Ile Trp Leu Ile Glu Gly Glu Glu
 180 185 190
 Glu Ser Gly Ser Leu Ala Leu Phe Thr Trp Leu Glu Lys Lys Lys Glu
 195 200 205
 Ala Leu Arg Ala Asp Tyr Leu Leu Ile Val Asp Gly Gly Phe Leu Ser
 210 215 220
 Glu Lys His Pro Tyr Val Ser Ile Gly Ala Arg Gly Ile Val Ser Met
 225 230 235 240
 Lys Ile Ser Leu Glu Glu Gly Asn Lys Asp Met His Ser Gly Val Leu
 245 250 255
 Gly Gly Ile Ala Tyr Asn Thr Asn Arg Ala Leu Ser Glu Ile Leu Ser
 260 265 270
 Ser Leu His His Pro Asp Asn Ser Ile Ala Ile Glu Gly Phe Tyr Asp
 275 280 285
 Asp Leu Ala Leu Pro Ser Asp Ser Asp Arg Pro Asp Leu Pro Lys Ser
 290 295 300
 Asp Thr Leu Arg Glu Cys Glu Glu Asn Leu Gly Phe Arg Pro Gln Gly
 305 310 315 320
 Tyr Glu Ala Ser Tyr Ser Pro Glu Glu Ser Ala Leu Arg Pro Thr Val
 325 330 335
 Glu Ile Asn Gly Ile Ser Gly Gly Tyr Thr Gly Pro Gly Phe Lys Thr
 340 345 350
 Val Ile Pro Tyr Arg Ala Thr Ala Tyr Leu Ser Cys Arg Leu Val Pro
 355 360 365
 Asn Gln Asp Pro Asp Lys Ala Ala His Gln Val Ile His His Leu Lys
 370 375 380
 Gln Gln Val Pro Ser Ser Leu Lys Phe Ser Tyr Glu Ile Leu Pro Gly
 385 390 395 400
 Gly Ser Arg Gly Trp Arg Ser Ser Ala Asn Leu Pro Ile Val Lys Val
 405 410 415

Leu Gln Glu Ile Tyr Ser Asp Leu Tyr Asn Glu Glu Cys Leu Arg Leu
 420 425 430
 Val Met Pro Ala Thr Ile Pro Ile Gly Pro Leu Leu Gly Glu Ala Ala
 435 440 445
 Gln Thr Ser Pro Ile Ile Cys Gly Thr Ser Tyr Leu Ser Asp Asp Ile
 450 455 460
 His Ala Ala Glu Glu His Phe Ser Met Asp Gln Leu Lys Lys Gly Phe
 465 470 475 480
 Leu Ser Ile Cys Gln Leu Leu Asp Lys Leu Pro Lys Ile Lys Glu
 485 490 495

<210> 982
 <211> 978
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0981

<400> 982
 Val Thr Glu Ser Met Lys Ala Gly Asp Thr Tyr Arg Asn Phe Ile Ile
 1 5 10 15
 Lys Ser Cys Lys Asp Leu Pro Glu Ile Glu Ser Lys Leu Leu Glu Ala
 20 25 30
 Glu His Lys Pro Thr Gly Ala Ser Ile Met Met Ile Val Asn Asn Asp
 35 40 45
 Glu Glu Asn Val Phe Asn Ile Cys Phe Arg Thr Cys Pro Gln Thr Ser
 50 55 60
 Asn Gly Val Ala His Val Leu Glu His Met Val Leu Cys Gly Ser Glu
 65 70 75 80
 Asn Tyr Pro Val Arg Asp Pro Phe Phe Ser Met Thr Arg Arg Ser Leu
 85 90 95
 Asn Thr Phe Ile Asn Ala Phe Thr Gly Pro Asp Phe Thr Cys Tyr Pro
 100 105 110
 Ala Ala Ser Gln Ile Pro Glu Asp Phe Tyr Asn Leu Leu Ser Val Tyr
 115 120 125
 Ile Asp Ala Val Phe His Pro Leu Leu Thr Lys Gln Ser Phe Leu Gln
 130 135 140
 Glu Ala Trp Arg Tyr Glu Phe Asn Ser Glu Asn His Leu Cys Tyr Thr
 145 150 155 160
 Gly Val Val Phe Asn Glu Met Lys Gly Ala Met Met Ser Gly Glu Ala
 165 170 175
 Arg Leu Ser Glu Ala Leu Asn Ala Ala Ile Phe Pro Ser Val Thr Tyr
 180 185 190
 Gly Val Asn Ser Gly Gly Glu Pro Arg Glu Ile Val Thr Leu Ser His
 195 200 205
 Glu Asp Val Arg Ala Phe His Gln Ser Gln Tyr Ser Ile Asn Arg Cys
 210 215 220
 Leu Phe Tyr Phe Tyr Gly Asn Ile Lys Pro Ser Arg His Leu Asp Phe
 225 230 235 240
 Leu Glu Glu Lys Leu Leu Arg Gln Ala Thr Lys Leu Glu Lys Gln Ala
 245 250 255
 Val Ser Val Pro Leu Gln Lys Arg Phe Lys Glu Pro Val Arg Asn Ile
 260 265 270
 Leu Thr Tyr Pro Val Asp His Gln Glu Glu Asp Lys Val Leu Phe Gly
 275 280 285
 Ile Ser Trp Leu Thr Cys Ser Ile Leu Glu Gln Gln Glu Leu Leu Ala
 290 295 300
 Leu His Val Leu Glu Ile Ile Leu Met Gly Thr Asp Ala Ser Pro Leu
 305 310 315 320

Lys Ser Arg Leu Leu Lys Ser Gly Phe Cys Lys Gln Thr Glu Met Ser
 325 330 335
 Ile Glu Asn Asp Ile Arg Glu Ile Pro Met Thr Leu Val Cys Lys Gly
 340 345 350
 Cys Ser Pro Ala Gly Ala Gln Lys Leu Glu Ala Leu Ile Phe Ala Ser
 355 360 365
 Leu Glu Glu Ile Ile Arg Glu Gly Ile Ser Glu Asn Ile Val Glu Gly
 370 375 380
 Ala Val His Gln Leu Glu Leu Ser Arg Lys Glu Ile Thr Gly Tyr Ser
 385 390 395 400
 Leu Pro Tyr Gly Leu Ser Leu Phe Phe Arg Ser Gly Leu Leu Lys Gln
 405 410 415
 His Gly Gly Ser Ala Glu Asp Gly Leu Arg Ile His Ser Leu Phe Ser
 420 425 430
 Glu Leu Arg Asn Ser Leu Lys Asn Ser Asp Tyr Leu Ala Lys Leu Ile
 435 440 445
 Arg Lys Tyr Phe Leu Asp Asn Pro His Phe Ala Arg Val Ile Leu Leu
 450 455 460
 Pro Asp Thr Glu Leu Val Ala Lys Asp Asn Lys Asp Glu Gln Gln Leu
 465 470 475 480
 Leu Leu Ser Val Ser Glu Lys Leu Thr Asp Glu Asn Lys Glu Lys Ile
 485 490 495
 Gln Gln Asn Val Arg Glu Leu Thr Glu Ser Gln Glu Gln Lys Glu Asp
 500 505 510
 Leu Asn Gly Ile Leu Pro Asn Leu Ala Leu Asp Lys Val Pro Thr Ser
 515 520 525
 Gly Lys Glu Phe Pro Leu Ile Lys Glu Gly Leu Ser Gln Gly Glu Val
 530 535 540
 Leu His His Glu Cys Phe Thr Asn Asp Ile Val Phe Ile Asp Val Val
 545 550 555 560
 Leu Asp Ile Pro Pro Leu Ser Gly Glu Glu Leu Pro Trp Leu Arg Leu
 565 570 575
 Leu Val Phe Leu Met Leu Gln Leu Gly Cys Gly Gly Arg Ser Tyr Lys
 580 585 590
 Glu His Leu Glu Phe Leu Leu Glu His Thr Gly Gly Val Asp Val Ser
 595 600 605
 Tyr Asp Phe Ser Pro His Ala Asn Lys Asn Ser Phe Leu Ser Pro Ser
 610 615 620
 Val Ser Ile Arg Gly Lys Ala Leu Ser Ser Lys Ser Glu Lys Leu Cys
 625 630 635 640
 Gly Ile Val Ser Asp Met Leu Thr Ser Val Asp Phe Thr Asp Ile Pro
 645 650 655
 Arg Ile Arg Glu Leu Leu Met Gln His Asn Glu Ala Leu Thr Asn Ser
 660 665 670
 Val Arg Asn Ser Pro Met Ser Tyr Ala Val Ser Met Ala Cys Ser Gly
 675 680 685
 Asn Ser Ile Thr Gly Ala Met Ser Tyr Leu Thr Thr Gly Leu Pro Tyr
 690 695 700
 Val Lys Lys Ile Arg Glu Leu Thr Lys Asn Phe Asp Gln Asn Ile Asp
 705 710 715 720
 Glu Ala Val Val Ile Leu Gln Arg Leu Tyr Thr Lys Cys Phe Ser Gly
 725 730 735
 Lys Arg Gln Ile Val Ile Ser Gly Ser Ala His Asn Tyr Gln Gln Leu
 740 745 750
 Lys Asp Asn Lys Phe Tyr Gly Leu Leu Asp Tyr Leu Ile Val Ile Pro
 755 760 765
 Glu Pro Trp Glu Asn Pro Ser Ile Asn Leu Tyr Val Thr Ser Arg Gly
 770 775 780
 Leu His Ile Pro Ala Arg Ala Ala Phe Asn Ala Leu Ala Phe Pro Ile
 785 790 795 800

Pro Gln Asp Arg Cys Leu Ile Ile Asp Ala Lys Ala Pro Ile Ser Asp
 210 215 220
 Ser Tyr Phe Ser Val Glu Ile Asp Lys Gly Asp Leu Val Asp Lys
 225 230 235 240
 Ile Lys Glu His Ile Lys Thr Leu Lys Ser Lys Ser Tyr Trp Glu Lys
 245 250 255
 Phe His Gln Ser Pro Glu Tyr Val Ile Leu Phe Leu Pro Gly Glu Ser
 260 265 270
 Leu Phe Asn Asp Ala Ile Arg Leu Ala Pro Glu Leu Met Glu Ile Gly
 275 280 285
 Ala Ser Ser Asn Val Ile Leu Ser Ser Pro Leu Thr Leu Leu Ala Leu
 290 295 300
 Leu Lys Thr Ile Ala Tyr Met Trp Lys Gln Glu Asn Leu Gln Lys Gln
 305 310 315 320
 Ile Gln Glu Val Ser Leu Leu Gly Lys Glu Leu His Arg Arg Leu Gln
 325 330 335
 Val Val Phe Thr His Phe Gln Lys Ile Gly Lys Asn Leu Asn Gln Thr
 340 345 350
 Val Gln Ser Tyr Asn Asp Met Thr Ser Ser Phe Gln Tyr Arg Val Leu
 355 360 365
 Pro Thr Leu Arg Lys Phe Glu Gly Leu Glu Thr Ser Ser Ser His Gln
 370 375 380
 Ile Glu Glu Pro Thr Pro Ile Glu Ser Leu Ala Thr Ser Phe Pro His
 385 390 395 400
 Thr Cys Asp Ile Asp Thr Asn Leu Ala Val Ile Glu Ser Leu Glu Lys
 405 410 415
 Gln Asp

<210> 984
 <211> 280
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0983

<400> 984
 Lys Asn Pro Leu Cys Tyr Glu Gln Lys Lys Leu Trp Gln Ile Asp Met
 1 5 10 15
 Ala Gly Leu Asp Leu Glu Ala Arg Gly Lys Arg Arg Val Val Thr Pro
 20 25 30
 Asn Ala Ile Thr Ala Phe Gly Leu Cys Cys Gly Leu Phe Ile Ile Phe
 35 40 45
 Lys Ser Val Leu Arg Thr Ser Ser Ser Val Glu Leu Phe His Arg Leu
 50 55 60
 Gln Gly Leu Ser Leu Leu Ile Ser Ala Met Ile Ala Asp Phe Ser
 65 70 75 80
 Asp Gly Ala Ile Ala Arg Ile Met Lys Ala Glu Ser Ala Phe Gly Ala
 85 90 95
 Gln Phe Asp Ser Leu Ser Asp Ala Val Thr Phe Gly Ile Ala Pro Pro
 100 105 110
 Leu Ile Ala Ile Lys Ser Leu Asp Gly Ile Tyr Val Gly Asn Phe Phe
 115 120 125
 Ser Ser Leu Leu Leu Ile Thr Ser Ile Ile Tyr Ser Leu Cys Gly Val
 130 135 140
 Leu Arg Leu Val Arg Tyr Asn Leu Phe Ser Gln Lys Thr Val Asp Val
 145 150 155 160
 Ser Lys Pro Tyr Cys Phe Ile Gly Leu Pro Ile Pro Ala Ala Ala Ala
 165 170 175

Ser Ile Val Ser Leu Ala Leu Phe Leu Ala Ser Asp Phe Phe Pro Asp
 180 185 190
 Leu Pro Ala Gln Leu Arg Val Gly Leu Leu Ser Phe Ala Leu Leu Phe
 195 200 205
 Ile Gly Gly Leu Met Ile Ser Pro Trp Lys Phe Pro Gly Val Lys His
 210 215 220
 Phe Arg Phe Asn Val Ser Ser Phe Leu Leu Val Val Thr Ile Gly Leu
 225 230 235 240
 Ala Ala Cys Leu Phe Phe Ser Gly Leu Val Asp His Phe Val Glu Val
 245 250 255
 Phe Phe Leu Val Ser Trp Leu Tyr Thr Leu Val Gly Phe Pro Ile Phe
 260 265 270
 Ser Ile Ile Tyr Arg Lys Lys Ser
 275 280

<210> 985
 <211> 1047
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0984

<400> 985
 Gly Lys Val Met Val Glu Val Glu Glu Lys His Tyr Thr Ile Val Lys
 1 5 10 15
 Arg Asn Gly Met Phe Val Pro Phe Asn Gln Asp Arg Ile Phe Gln Ala
 20 25 30
 Leu Glu Ala Ala Phe Arg Asp Thr Arg Ser Leu Glu Thr Ser Ser Pro
 35 40 45
 Leu Pro Lys Asp Leu Glu Glu Ser Ile Ala Gln Ile Thr His Lys Val
 50 55 60
 Val Lys Glu Val Leu Ala Lys Ile Ser Glu Gly Gln Val Val Thr Val
 65 70 75 80
 Glu Arg Ile Gln Asp Leu Val Glu Ser Gln Leu Tyr Ile Ser Gly Leu
 85 90 95
 Gln Asp Val Ala Arg Asp Tyr Ile Val Tyr Arg Asp Gln Arg Lys Ala
 100 105 110
 Glu Arg Gly Asn Ser Ser Ser Ile Ile Ala Ile Ile Arg Arg Asp Gly
 115 120 125
 Gly Ser Ala Lys Phe Asn Pro Met Lys Ile Ser Ala Ala Leu Glu Lys
 130 135 140
 Ala Phe Arg Ala Thr Leu Gln Ile Asn Gly Met Thr Pro Pro Ala Thr
 145 150 155 160
 Leu Ser Glu Ile Asn Asp Leu Thr Leu Arg Ile Val Glu Asp Val Leu
 165 170 175
 Ser Leu His Gly Glu Glu Ala Ile Asn Leu Glu Glu Ile Gln Asp Ile
 180 185 190
 Val Glu Lys Gln Leu Met Val Ala Gly Tyr Tyr Asp Val Ala Lys Asn
 195 200 205
 Tyr Ile Leu Tyr Arg Glu Ala Arg Ala Arg Ala Asn Lys Asp
 210 215 220
 Gln Asp Gly Gln Glu Glu Phe Val Pro Gln Glu Thr Tyr Val Val
 225 230 235 240
 Gln Lys Glu Asp Gly Thr Thr Tyr Leu Leu Arg Lys Thr Asp Leu Glu
 245 250 255
 Lys Arg Phe Ser Trp Ala Cys Lys Arg Phe Pro Lys Thr Thr Asp Ser
 260 265 270
 Gln Leu Leu Ala Asp Met Ala Phe Met Asn Leu Tyr Ser Gly Ile Lys
 275 280 285

Glu Asp Glu Val Thr Thr Ala Cys Ile Met Ala Ala Arg Ala Asn Ile
 290 295 300
 Glu Arg Glu Pro Asp Tyr Ala Phe Ile Ala Ala Glu Leu Leu Thr Ser
 305 310 315 320
 Ser Leu Tyr Glu Glu Thr Leu Gly Cys Ser Ser Gln Asp Pro Asn Leu
 325 330 335
 Ser Glu Ile His Lys Lys His Phe Lys Glu Tyr Ile Leu Asn Gly Glu
 340 345 350
 Glu Tyr Arg Leu Asn Pro Gln Leu Lys Asp Tyr Asp Leu Asp Ala Leu
 355 360 365
 Ser Glu Val Leu Asp Leu Ser Arg Asp Gln Gln Phe Ser Tyr Met Gly
 370 375 380
 Val Gln Asn Leu Tyr Asp Arg Tyr Phe Asn Leu His Glu Gly Arg Arg
 385 390 395 400
 Leu Glu Thr Ala Gln Ile Phe Trp Met Arg Val Ser Met Gly Leu Ala
 405 410 415
 Leu Asn Glu Gly Glu Gln Lys Asn Phe Trp Ala Ile Thr Phe Tyr Asn
 420 425 430
 Leu Leu Ser Thr Phe Arg Tyr Thr Pro Ala Thr Pro Thr Leu Phe Asn
 435 440 445
 Ser Gly Met Arg His Ser Gln Leu Ser Ser Cys Tyr Leu Ser Thr Val
 450 455 460
 Lys Asp Asp Leu Ser His Ile Tyr Lys Val Ile Ser Asp Asn Ala Leu
 465 470 475 480
 Leu Ser Lys Trp Ala Gly Gly Ile Gly Asn Asp Trp Thr Asp Val Arg
 485 490 495
 Ala Thr Gly Ala Val Ile Lys Gly Thr Asn Gly Lys Ser Gln Gly Val
 500 505 510
 Ile Pro Phe Ile Lys Val Ala Asn Asp Thr Ala Ile Ala Val Asn Gln
 515 520 525
 Gly Gly Lys Arg Lys Gly Ala Met Cys Val Tyr Leu Glu Asn Trp His
 530 535 540
 Leu Asp Tyr Glu Asp Phe Leu Glu Leu Arg Lys Asn Thr Gly Asp Glu
 545 550 555 560
 Arg Arg Arg Thr His Asp Ile Asn Thr Ala Ser Trp Ile Pro Asp Leu
 565 570 575
 Phe Phe Lys Arg Leu Glu Lys Lys Gly Met Trp Thr Leu Phe Ser Pro
 580 585 590
 Asp Asp Val Pro Gly Leu His Glu Ala Tyr Gly Leu Glu Phe Glu Lys
 595 600 605
 Leu Tyr Glu Glu Tyr Glu Arg Lys Val Glu Ser Gly Glu Ile Arg Leu
 610 615 620
 Tyr Lys Lys Val Glu Ala Glu Val Leu Trp Arg Lys Met Leu Ser Met
 625 630 635 640
 Leu Tyr Glu Thr Gly His Pro Trp Ile Thr Phe Lys Asp Pro Ser Asn
 645 650 655
 Ile Arg Ser Asn Gln Asp His Val Gly Val Val Arg Cys Ser Asn Leu
 660 665 670
 Cys Thr Glu Ile Leu Leu Asn Cys Ser Glu Ser Glu Thr Ala Val Cys
 675 680 685
 Asn Leu Gly Ser Ile Asn Leu Val Glu His Ile Arg Asn Asp Lys Leu
 690 695 700
 Asp Glu Glu Lys Leu Lys Glu Thr Ile Ser Ile Ala Ile Arg Ile Leu
 705 710 715 720
 Asp Asn Val Ile Asp Leu Asn Phe Tyr Pro Thr Pro Glu Ala Lys Gln
 725 730 735
 Ala Asn Leu Thr His Arg Ala Val Gly Leu Gly Val Met Gly Phe Gln
 740 745 750
 Asp Val Leu Tyr Glu Leu Asn Ile Ser Tyr Ala Ser Gln Glu Ala Val
 755 760 765

Glu Phe Ser Asp Glu Cys Ser Glu Ile Ile Ala Tyr Tyr Ala Ile Leu
 770 775 780
 Ala Ser Ser Leu Leu Ala Lys Glu Arg Gly Thr Tyr Ala Ser Tyr Ser
 785 790 795 800
 Gly Ser Lys Trp Asp Arg Gly Tyr Leu Pro Leu Asp Thr Ile Glu Leu
 805 810 815
 Leu Lys Glu Thr Arg Gly Glu His Asn Val Leu Val Asp Thr Ser Ser
 820 825 830
 Lys Lys Asp Trp Thr Pro Val Arg Asp Thr Ile Gln Lys Tyr Gly Met
 835 840 845
 Arg Asn Ser Gln Val Met Ala Ile Ala Pro Thr Ala Thr Ile Ser Asn
 850 855 860
 Ile Ile Gly Val Thr Gln Ser Ile Glu Pro Met Tyr Lys His Leu Phe
 865 870 875 880
 Val Lys Ser Asn Leu Ser Gly Glu Phe Thr Ile Pro Asn Thr Tyr Leu
 885 890 895
 Ile Lys Lys Leu Lys Glu Leu Gly Leu Trp Asp Ala Glu Met Leu Asp
 900 905 910
 Asp Leu Lys Tyr Phe Asp Gly Ser Leu Leu Glu Ile Glu Arg Ile Pro
 915 920 925
 Asn His Leu Lys Lys Leu Phe Leu Thr Ala Phe Glu Ile Glu Pro Glu
 930 935 940
 Trp Ile Ile Glu Cys Thr Ser Arg Arg Gln Lys Trp Ile Asp Met Gly
 945 950 955 960
 Val Ser Leu Asn Leu Tyr Leu Ala Glu Pro Asp Gly Lys Lys Leu Ser
 965 970 975
 Asn Met Tyr Leu Thr Ala Trp Lys Lys Gly Leu Lys Thr Thr Tyr Tyr
 980 985 990
 Leu Arg Ser Gln Ala Ala Thr Ser Val Glu Lys Ser Phe Ile Asp Ile
 995 1000 1005
 Asn Lys Arg Gly Ile Gln Pro Arg Trp Met Lys Asn Lys Ser Ala Ser
 1010 1015 1020
 Thr Ser Ile Val Val Glu Arg Lys Thr Thr Pro Val Cys Ser Met Glu
 1025 1030 1035 1040
 Glu Gly Cys Glu Ser Cys Gln
 1045

<210> 986
 <211> 380
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0985

<400> 986
 Ile Ser Val His Lys Tyr Cys Gly Arg Lys Lys Asn Asn Pro Arg Leu
 1 5 10 15
 Phe Asn Gly Arg Arg Leu Arg Ile Leu Ser Ile Thr Glu Lys Arg Gly
 20 25 30
 Ala Lys Met Glu Ala Asp Ile Leu Asp Gly Lys Leu Lys Arg Val Glu
 35 40 45
 Val Ser Lys Lys Gly Leu Val Asn Cys Asn Gln Val Asp Val Asn Gln
 50 55 60
 Leu Val Pro Ile Lys Tyr Lys Trp Ala Trp Glu His Tyr Leu Asn Gly
 65 70 75 80
 Cys Ala Asn Asn Trp Leu Pro Thr Glu Val Pro Met Ala Arg Asp Ile
 85 90 95
 Glu Leu Trp Lys Ser Asp Glu Leu Ser Glu Asp Glu Arg Arg Val Ile
 100 105 110

Leu Leu Asn Leu Gly Phe Phe Ser Thr Ala Glu Ser Leu Val Gly Asn
 115 120 125
 Asn Ile Val Leu Ala Ile Phe Lys His Ile Thr Asn Pro Glu Ala Arg
 130 135 140
 Gln Tyr Leu Leu Arg Gln Ala Phe Glu Glu Ala Val His Thr His Thr
 145 150 155 160
 Phe Leu Tyr Ile Cys Glu Ser Leu Gly Leu Asp Glu Gly Glu Val Phe
 165 170 175
 Asn Ala Tyr Asn Glu Arg Ala Ser Ile Arg Ala Lys Asp Asp Phe Gln
 180 185 190
 Met Thr Leu Thr Val Asp Val Leu Asp Pro Asn Phe Ser Val Gln Ser
 195 200 205
 Ser Glu Gly Leu Gly Gln Phe Ile Lys Asn Leu Val Gly Tyr Tyr Ile
 210 215 220
 Ile Met Glu Gly Ile Phe Phe Tyr Ser Gly Phe Val Met Ile Leu Ser
 230 235 240
 Phe His Arg Gln Asn Lys Met Thr Gly Ile Gly Glu Gln Tyr Gln Tyr
 245 250 255
 Ile Leu Arg Asp Glu Thr Ile His Leu Asn Phe Gly Ile Asp Leu Ile
 260 265 270
 Asn Gly Ile Lys Glu Glu Asn Pro Glu Val Trp Thr Thr Glu Leu Gln
 275 280 285
 Glu Glu Ile Val Ala Leu Ile Glu Lys Ala Val Glu Leu Glu Ile Glu
 290 295 300
 Tyr Ala Lys Asp Cys Leu Pro Arg Gly Ile Leu Gly Leu Arg Ser Ser
 305 310 315 320
 Met Phe Ile Asp Tyr Val Arg His Ile Ala Asp Arg Arg Leu Glu Arg
 325 330 335
 Ile Gly Leu Lys Pro Ile Tyr His Ser Arg Asn Pro Phe Pro Trp Met
 340 345 350
 Ser Glu Thr Met Asp Leu Asn Lys Glu Lys Asn Phe Phe Glu Thr Arg
 355 360 365
 Val Thr Glu Tyr Gln Thr Ala Gly Asn Leu Ser Trp
 370 375 380

<210> 987
 <211> 228
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0986

<400> 987
 Phe Leu Leu Phe Met Lys Pro Gln Asp Leu Ser Pro Pro Phe Leu Trp
 1 5 10 15
 Lys Glu Arg Arg Pro Cys Ile Gln Asp Gly Val Leu Tyr Val Pro Arg
 20 25 30
 His Tyr Phe Glu His Gln Asn Phe Ser Thr Ser Tyr His Gln Glu Phe
 35 40 45
 Phe Gln Asn His Thr Ser Ile Ala Cys Glu Leu Cys Ser Gly Asn Gly
 50 55 60
 Asp Trp Val Val Ala Gln Ala Gln Lys Asp Pro Gln Val Leu Trp Ile
 65 70 75 80
 Ala Val Glu Gln Arg Phe Asp Arg Val Arg Lys Ile Trp Ser Lys Met
 85 90 95
 Ile Asn His Gln Ile Gln Asn Leu Arg Ile Val Cys Gly Thr Ala Glu
 100 105 110
 Thr Phe Phe Gln Tyr Tyr Val Pro Asp Gln Phe Leu Gln Arg Leu Val
 115 120 125

Val Asn Phe Pro Asp Pro Trp Pro Lys Met Arg His Arg Lys His Arg
 130 135 140
 Leu Leu Gln Pro Ser Phe Val Gln Glu Ile Ser Arg Ser Leu Gln Asp
 145 150 155 160
 Ser Ala Val Phe Ala Leu Ala Thr Asp Asp Lys Thr Tyr Leu Leu Glu
 165 170 175
 Ser Ile Glu Ala Leu Gln Thr His Leu Ala Pro Arg Met Glu Thr Pro
 180 185 190
 Tyr Tyr Ile Lys Met Thr Asp Thr Tyr Gly Asn Ser Trp Phe Glu Asn
 195 200 205
 Leu Trp Arg Thr Lys Gly Gln Glu Ile Phe Tyr Thr Glu Phe Ile Lys
 210 215 220
 Lys Ala Gly Ile
 225

<210> 988
 <211> 211
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0987

<400> 988
 Leu Glu Asn Gly Ile Phe Ala Ile Gly Phe Phe Met Phe Ala Tyr Arg
 1 5 10 15
 Thr Leu Leu Thr His Asn Val Val Gln Val Ser His Glu Ile Phe Lys
 20 25 30
 Thr Thr Val Val Pro Gly Asp Thr Val Ile Asp Ala Thr Cys Gly Asn
 35 40 45
 Gly Asn Asp Ser Leu Phe Leu Ala Arg Leu Leu Gln Gly Glu Gly*Arg
 50 55 60
 Leu Val Val Tyr Asp Ile Gln Lys Glu Ala Leu Ser Asn Ala Leu Leu
 65 70 75 80
 Leu Phe Glu Thr His Leu Ser Glu Gln Glu Arg Ser Val Ile Glu Met
 85 90 95
 Lys Glu Gln Ser His Glu His Ile Leu Glu Lys Asp Val Lys Leu Ile
 100 105 110
 His Tyr Asn Leu Gly Tyr Leu Pro Lys Gly Asn Lys Glu Ile Thr Thr
 115 120 125
 Leu Ala Arg Thr Thr Glu Ile Ser Leu Glu Tyr Ala Leu Asn Ile Val
 130 135 140
 Arg Pro Asp Gly Leu Ile Thr Val Val Cys Tyr Pro Gly His Pro Glu
 145 150 155 160
 Gly Glu Lys Glu Thr His Ser Val Glu Ser Leu Ala Gln Arg Leu His
 165 170 175
 Pro Lys Glu Trp Cys Val Ser Ser Phe Tyr Val Ala Asn Arg Cys Arg
 180 185 190
 Ala Pro Arg Leu Phe Ile Phe Gln Arg Gln Gly Ser Glu Ser Ser Val
 195 200 205
 Asp Lys Gly
 210

<210> 989
 <211> 319
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0988

<400> 989

Lys	Phe	Phe	Ile	Asn	Leu	Ile	Asn	Leu	Asp	Gln	Gly	Ile	Leu	Lys	Met
1				5					10					15	
Lys	Glu	Ala	Ala	Pro	Met	His	Phe	Pro	Phe	Pro	Val	Arg	Arg	Ser	Val
			20					25					30		
Trp	Leu	Asn	Arg	Tyr	Ser	Thr	Phe	Arg	Ile	Gly	Gly	Pro	Ala	Asn	Tyr
		35					40					45			
Phe	Lys	Ala	Ile	His	Thr	Ile	Glu	Glu	Ala	Arg	Glu	Val	Ile	Arg	Phe
	50					55					60				
Leu	His	Ser	Ile	Asn	Tyr	Pro	Phe	Leu	Ile	Ile	Gly	Lys	Gly	Ser	Asn
65					70					75					80
Cys	Leu	Phe	Asp	Asp	Arg	Gly	Phe	Asp	Gly	Phe	Val	Leu	Tyr	Asn	Ala
				85					90					95	
Ile	Tyr	Gly	Lys	Gln	Phe	Leu	Glu	Asp	Ala	Arg	Ile	Lys	Ala	Tyr	Ser
			100					105					110		
Gly	Leu	Ser	Phe	Ala	Ala	Leu	Gly	Lys	Ala	Thr	Ala	Tyr	Asn	Gly	Tyr
		115					120					125			
Ser	Gly	Leu	Glu	Phe	Ala	Ala	Gly	Ile	Pro	Gly	Ser	Val	Gly	Gly	Ala
	130					135					140				
Ile	Phe	Met	Asn	Ala	Gly	Thr	Asn	Glu	Ser	Asp	Ile	Ser	Ser	Val	Val
145					150					155					160
Arg	Asn	Val	Glu	Thr	Ile	Asn	Ser	Glu	Gly	Glu	Leu	Cys	Ser	Tyr	Ser
				165					170					175	
Val	Glu	Glu	Leu	Glu	Leu	Ser	Tyr	Arg	Ser	Ser	Arg	Phe	His	Arg	Gln
			180					185					190		
Gln	Glu	Phe	Ile	Leu	Ser	Ala	Thr	Phe	Gln	Leu	Ser	Lys	Lys	Gln	Val
		195					200					205			
Ser	Ala	Asp	His	Ser	Lys	Ser	Ile	Leu	Gln	His	Arg	Leu	Met	Thr	Gln
	210					215					220				
Pro	Tyr	Thr	Gln	Pro	Ser	Ala	Gly	Cys	Ile	Phe	Arg	Asn	Pro	Glu	Gly
225					230					235				240	
Thr	Ser	Ala	Gly	Lys	Leu	Ile	Asp	Ala	Ala	Gly	Leu	Lys	Gly	Leu	Ala
				245					250					255	
Ile	Gly	Gly	Ala	Gln	Ile	Ser	Pro	Leu	His	Ala	Asn	Phe	Ile	Ile	Asn
			260					265						270	
Thr	Gly	Lys	Ala	Thr	Ser	Asp	Glu	Val	Lys	Gln	Leu	Ile	Ala	Ile	Ile
		275					280					285			
Gln	Ser	Thr	Leu	Lys	Thr	Gln	Gly	Ile	Asp	Leu	Glu	His	Glu	Ile	Arg
	290					295					300				
Ile	Ile	Pro	Tyr	Gln	Pro	Lys	Ile	His	Ser	Pro	Val	Ser	Glu	Lys	
305					310					315					

<210> 990
 <211> 179
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0989

<400> 990

Leu	Arg	Thr	Ser	Leu	Ala	Val	Lys	Cys	Val	Leu	Leu	Thr	Ile	Phe	Trp
1				5					10					15	
Leu	Leu	Val	Met	Ala	Thr	Leu	Ser	Pro	Glu	Lys	Phe	Ser	Gly	Ser	Pro
			20					25					30		
Ile	Ser	Ile	Ser	Lys	Glu	Phe	Pro	Gln	Gln	Lys	Met	Arg	Glu	Ile	Ile
		35					40					45			
Leu	Gln	Met	Leu	Tyr	Ala	Leu	Asp	Met	Ala	Pro	Ser	Ala	Glu	Asp	Ser
	50					55				60					
Leu	Val	Pro	Leu	Leu	Met	Ser	Gln	Thr	Ala	Val	Ser	Gln	Lys	His	Val
65					70					75					80

Lys Ser Val Ser Ala Arg Phe Lys Leu Thr Ala Ser Gly Gln Leu Lys
 20 25 30
 Arg Thr Arg Pro Gly Lys Arg His Lys Leu Ser Lys Lys Ser Ser Gln
 35 40 45
 Glu Lys Arg Asn Leu Ser Lys Gln Pro Leu Val Asp Lys Gly Gln Val
 50 55 60
 Gly Met Tyr Lys Arg Met Met Leu Val
 65 70

<210> 993
 <211> 125
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0992

<400> 993
 Gly Lys Leu Val Met Val Arg Ala Thr Gly Ser Val Ala Ser Arg Arg
 1 5 10 15
 Arg Arg Lys Arg Ile Leu Lys Gln Ala Lys Gly Phe Trp Gly Asp Arg
 20 25 30
 Lys Gly His Ile Arg Gln Ser Arg Ser Ser Val Met Arg Ala Met Ala
 35 40 45
 Phe Asn Tyr Met His Arg Lys Asp Arg Lys Gly Asp Phe Arg Ser Leu
 50 55 60
 Trp Ile Ala Arg Leu Asn Val Ala Ser Arg Ile His Ser Leu Ser Tyr
 65 70 75 80
 Ser Arg Leu Ile Asn Gly Leu Lys Cys Ala Asn Ile Ser Leu Asn Arg
 85 90 95
 Lys Met Leu Ser Glu Ile Ala Ile His Asn Pro Glu Gly Phe Ala Glu
 100 105 110
 Ile Ala Asn Gln Ala Lys Lys Ala Leu Glu Ala Thr Val
 115 120 125

<210> 994
 <211> 352
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0993

<400> 994
 Lys Ser Phe Gly Ser His Ser Leu Gly Ile Arg Ile Ser Met Glu Met
 1 5 10 15
 Lys Glu Glu Ile Glu Ala Val Lys Gln Gln Phe His Ser Glu Leu Asp
 20 25 30
 Gln Val Asn Ser Ser Gln Ala Leu Ala Asp Leu Lys Val Arg Tyr Leu
 35 40 45
 Gly Lys Lys Gly Ile Phe Arg Ser Phe Ser Glu Lys Leu Lys Gln Cys
 50 55 60
 Thr Asp Lys Ala Lys Leu Gly Ser Leu Ile Asn Asp Phe Lys Thr Tyr
 65 70 75 80
 Val Glu Asp Leu Leu Gln Glu Lys Ser Leu Val Leu Leu Ala Ser Glu
 85 90 95
 Gln Ala Glu Ala Phe Ser Lys Glu Lys Ile Asp Ser Ser Leu Pro Gly
 100 105 110
 Asp Ser Gln Pro Ser Gly Gly Arg His Ile Leu Lys Ser Ile Leu Asp
 115 120 125

Asp	Val	Val	Asp	Ile	Phe	Val	His	Leu	Gly	Phe	Cys	Val	Arg	Glu	Ala
130						135					140				
Pro	Asn	Ile	Glu	Ser	Glu	Ala	Asn	Asn	Phe	Thr	Leu	Leu	Asn	Phe	Thr
145					150					155					160
Glu	Asp	His	Pro	Ala	Arg	Gln	Met	His	Asp	Thr	Phe	Tyr	Leu	Asn	Ala
				165					170					175	
Thr	Thr	Val	Leu	Arg	Thr	His	Thr	Ser	Asn	Val	Gln	Ala	Arg	Glu	Leu
			180					185					190		
Lys	Lys	Gln	Gln	Pro	Pro	Ile	Lys	Val	Val	Ala	Pro	Gly	Leu	Cys	Phe
		195				200						205			
Arg	Asn	Glu	Asp	Ile	Ser	Ala	Arg	Ser	His	Val	Leu	Phe	His	Gln	Val
	210					215					220				
Glu	Ala	Phe	Tyr	Val	Asp	His	Asn	Val	Thr	Phe	Ser	Asp	Leu	Thr	Ala
225					230					235					240
Ile	Leu	Ser	Ala	Phe	Tyr	His	Ser	Phe	Phe	Gln	Arg	Lys	Thr	Glu	Leu
				245					250					255	
Arg	Phe	Arg	His	Ser	Tyr	Phe	Pro	Phe	Val	Glu	Pro	Gly	Ile	Glu	Val
			260					265					270		
Asp	Val	Ser	Cys	Glu	Cys	Cys	Gly	Lys	Gly	Cys	Ala	Leu	Cys	Lys	His
		275					280					285			
Thr	Gly	Trp	Leu	Glu	Val	Ala	Gly	Ala	Gly	Met	Ile	His	Pro	Gln	Val
	290					295					300				
Leu	Arg	Asn	Gly	Asn	Val	Asp	Pro	Glu	Ile	Tyr	Ser	Gly	Tyr	Ala	Val
305					310					315					320
Gly	Met	Gly	Ile	Glu	Arg	Leu	Ala	Met	Leu	Lys	Tyr	Gly	Val	Ser	Asp
				325					330					335	
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<220>
 <223> CPn0994

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			20					25					30		
Ala	Thr	Ser	Asn	Asp	Ser	Tyr	Leu	Asn	Asn	Pro	Ala	Arg	Phe	Asn	Gln
			35				40					45			
Arg	Lys	Gln	Thr	Gly	Ser	Ser	Val	Met	Glu	Met	Lys	Glu	Ala	Leu	Lys
	50					55					60				
Asn	Val	Glu	Asn	Tyr	Leu	Leu	Glu	Ile	Ser	Cys	Val	Ser	Lys	Ser	His
65				70						75					80
Ala	Asp	Lys	Ala	Leu	Lys	Glu	Ser	Asp	Phe	Leu	Ile	Ala	Gly	Val	Gln
				85					90					95	
Asn	Val	Phe	Ser	Phe	Leu	Glu	Asn	Gln	Glu	Asp	Leu	Tyr	Lys	Ser	Leu
			100					105					110		
Leu	Asp	Glu	Tyr	Ser	Glu	Val	Thr	Lys	Ala	Tyr	Asp	Glu	Val	Lys	Lys
			115				120					125			
Asn	Leu	Lys	Glu	Val	Pro	Thr	Tyr	Asp	Leu	Ser	Thr	Asp	Glu	Glu	Thr
	130					135						140			
Glu	Glu	His	Lys	Glu	Pro	Glu	Cys	Phe	Leu	Asn	Asn	Leu	Val	Glu	Val
145					150					155					160
Lys	Arg	Asp	Arg	Ser	Tyr	Glu	Leu	Phe	Tyr	Met	Leu	Asp	Glu	Gln	Asp
				165					170					175	

Lys Arg Phe Tyr Asn Asp Ala Leu Val Gln Ile Ile Tyr Lys Gln Asn
 180 185 190
 Lys Leu His Glu Thr Val Asn Glu Gly Asp Pro Leu Thr Lys Thr Leu
 195 200 205
 Leu Trp Asn Ser Glu Glu Val Lys Asn Ile Ala Ser Ser Leu Val Ile
 210 215 220
 Val Asn Asp Met Pro Leu Arg Leu Phe Tyr Gln Arg Ala Leu Ser His
 225 230 235 240
 Leu Asp Ile Glu Ala Val Val Lys Val His Asn Ala Val Met Ala Leu
 245 250 255
 Phe Phe Ser Arg Tyr Glu Ala Thr Met Val Phe Lys Ser Pro Lys Lys
 260 265 270
 His Asn Ile Trp Tyr Phe Asn Asp Phe Leu Leu Phe Leu Arg Glu Ala
 275 280 285
 Trp Lys Asp Leu Asn Asn Asn Val Ile Asp Ser Gln Glu Arg Lys Gln
 290 295 300
 Thr Lys Leu Leu Ala Ser Ala Leu Ser Leu Gly Ile Phe Glu Ser Lys
 305 310 315 320
 Leu Val Phe Glu Glu Ala Ser Arg Tyr Leu Tyr Phe Asn Ile Gln Thr
 325 330 335
 Lys Leu Glu Asn Ala Asn Gly Lys Lys Pro Leu Ser Pro Gly Gln Tyr
 340 345 350
 Leu Thr Asp Ala Tyr Glu Glu Leu His Arg Leu Ile Ser Lys Tyr Pro
 355 360 365
 Asn Gly Pro Leu Phe Lys Ala Met Asp Arg Val Leu Glu His Glu Ser
 370 375 380
 Arg Pro Tyr Asp Pro Met Ile Leu Gly Ile Leu Pro Ser Leu Glu Gly
 385 390 395 400
 Thr Leu Lys Leu His Gly Lys Ser Ile Asp Ile Ile Arg Ser Pro Ser
 405 410 415
 Pro Val Thr Gln Ser Ser Ile Leu Tyr Ala Asn Cys Asn Glu Glu Phe
 420 425 430
 Leu Gly Phe Leu Asn Ala Lys Ala His Arg Ser Glu Val Thr Leu Val
 435 440 445
 Leu Asn Ile Gln Asn Arg Ile Ser Arg Lys Glu Arg Ala Arg Ser Arg
 450 455 460
 Val Ile Glu Glu Ala Leu Glu Gln Glu Glu His Ala Pro Tyr Val His
 465 470 475 480
 Ala Phe Ser Phe Pro Glu Pro Glu Glu Leu Gln Asn Leu Glu Ser
 485 490 495
 Ile His Gly Asp Ile Glu Thr Phe Ala Asp Phe Phe Ser Ile Leu Gln
 500 505 510
 Glu Glu Phe His Lys Pro Leu Leu Ala Ser Ser Phe Phe Leu Thr Lys
 515 520 525
 Glu Leu Lys Glu Phe Val Gly Ser Phe Leu Lys Glu Lys Leu Thr Ala
 530 535 540
 Leu Lys Asp Ile Phe Phe Ala Lys Lys Lys Ile Leu Phe Arg Asn Asp
 545 550 555 560
 Lys Leu Leu Leu Leu His Leu Leu Ser Tyr Leu Ile Val Phe Lys Leu
 565 570 575
 Ile Glu Arg Thr Asn Pro Asn Ser Ile Val Val Val Ser Lys Asp Gly
 580 585 590
 Leu Asp Tyr Val Ser Val Phe Ile Ala Gly Phe Ala Phe Phe Ser Arg
 595 600 605
 Glu Ala Phe Trp Asp Glu His Ser Leu Lys Leu Leu Thr Asn Val
 610 615 620
 Leu Ser Pro Thr Leu Val Ala Arg Asp Arg Leu Val Phe Val Ser His
 625 630 635 640
 Ile Glu Leu Leu Ser Lys Phe Val Asn Cys Leu Lys Lys Asn Arg Gln
 645 650 655

Gly Phe Ser Ser Leu Lys Ser Phe Phe Lys Asp Asp Ile Glu Gly Trp
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Glu Phe Thr Gly Tyr Leu His Glu Leu Thr Glu Val Ser His Lys His
675 680 685
Asn Leu
690

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<220>
<223> CPn0995

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His Ser Leu His Thr Leu Lys Gly Ala Ser Thr Ala Ala Ser Gly Ala
35 40 45
Ser Val Lys Leu Ser Ile Leu Tyr Tyr Leu Ala Gln Ile Ser Leu Lys
50 55 60
Ala Glu Phe Leu Met Pro Gln Leu Val Ala Val Ala Thr Thr Ser Thr
65 70 75 80
Leu Phe Ala Met Gln Asn Lys Arg Glu Ile Ile Leu Leu Gln Ala Ser
85 90 95
Gly Leu Ser Leu Lys Ser Leu Met His Pro Leu Leu Leu Ser Gly Ala
100 105 110
Val Ile Met Met Val Leu Tyr Ala Asn Phe Gln Trp Leu His Pro Ile
115 120 125
Cys Glu Lys Ile Ser Ile Thr Lys Glu Asn Met Asp Arg Gly Thr Thr
130 135 140
Asp Lys Glu Gln Gly Lys Ile Pro Ala Leu Tyr Leu Lys Asp Gln Thr
145 150 155 160
Val Leu Leu Tyr Ser Ser Ile Glu Pro Lys Thr Leu Thr Leu Asn Asn
165 170 175
Val Phe Trp Ile Lys Asp Pro Lys Thr Ile Tyr Thr Met Glu Lys Leu
180 185 190
Ala Phe Thr Thr Leu Ser Leu Pro Ile Gly Leu Asn Val Thr Gln Phe
195 200 205
Phe Ala Asn Asp Ser Glu Asn Leu Glu Leu Lys Glu Phe Phe Asp Met
210 215 220
Lys Glu Phe Pro Glu Ile Glu Phe Asn Phe Tyr Glu Asn Pro Phe Ser
225 230 235 240
Lys Leu Phe Ser Ala Gly Asn Lys Asn Arg Leu Ser Glu Phe Phe Lys
245 250 255
Ala Ile Pro Trp Asn Ala Thr Gly Leu Gly Leu Ser Thr Gln Val Pro
260 265 270
Gln Arg Ile Leu Ser Leu Leu Ala Gln Phe Tyr Tyr Val Leu Ile Ser
275 280 285
Pro Leu Ala Cys Met Ala Ala Ile Ile Leu Ser Ala Tyr Leu Cys Leu
290 295 300
Arg Phe Ser Arg Thr Pro Thr Val Thr Leu Ala Tyr Leu Ile Pro Leu
305 310 315 320
Gly Thr Val Asn Ile Phe Phe Val Phe Leu Lys Ala Gly Ile Val Leu
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Ala Ser Ser Ser Val Leu Pro Thr Leu Pro Val Met Ala Phe Pro Leu
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Ile Val Leu Phe Leu Leu Thr Asn Tyr Ala Tyr Ala Lys Leu Gln
 355 360 365

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 Leu Gln Glu Ile Val Ala Tyr Ile Ala Lys Asp Val Pro Tyr Asp Thr
 35 40 45
 Val Leu Arg Leu Met Ala Tyr Gln Ile Pro Tyr Leu Leu Pro Phe Ile
 50 55 60
 Leu Pro Gly Ser Cys Phe Val Ser Ala Phe Ser Leu Phe Arg Lys Leu
 65 70 75 80
 Ser Asp Asn Asn His Met Thr Phe Leu Arg Ala Ser Gly Ala Ser Gln
 85 90 95
 Ser Ile Ile Met Phe Pro Val Leu Met Val Ser Gly Ala Ile Cys Cys
 100 105 110
 Leu Asn Phe Tyr Thr Cys Ser Glu Leu Ala Ser Ile Cys Arg Tyr Gln
 115 120 125
 Thr Cys Lys Glu Ile Ala Asn Met Ala Met Thr Ser Pro Ala Leu Leu
 130 135 140
 Leu Gln Thr Leu Gln Lys Lys Glu Asn Asn Arg Ile Phe Ile Ala Val
 145 150 155 160
 Asp His Cys Ala Lys Ser Lys Phe Asp Asn Val Ile Val Ala Leu Lys
 165 170 175
 Gly Asn Asn Glu Ile Ser His Val Gly Ile Ile Lys Ser Ile Ile Pro
 180 185 190
 Asp Thr Thr Lys Asp Thr Val Lys Ala Lys Asp Val Val Phe Ile Ser
 195 200 205
 Lys Leu Pro Asp Ser Leu Thr Glu Ser Ser Ser Pro Ser Ser Gln Arg
 210 215 220
 Phe Tyr Ile Glu Thr Leu Asp Glu Leu Leu Ile Pro Lys Ile Thr Ser
 225 230 235 240
 Thr Leu Phe Ala Gly Lys Ser Tyr Leu Lys Thr Arg Thr Asp Tyr Leu
 245 250 255
 Pro Trp Lys Gln Leu Val Lys Gln Ser Leu Lys His Ser His Leu Pro
 260 265 270
 Glu Thr Leu Arg Arg Val Ala Ile Gly Phe Leu Cys Ile Thr Leu Thr
 275 280 285
 Tyr Ala Gly Met Ile Leu Gly Ile His Lys Pro Arg Phe Arg Lys Ser
 290 295 300
 Ile Ala Leu Tyr Phe Ile Phe Pro Ile Leu Asp Leu Ile Leu Leu Ile
 305 310 315 320
 Val Gly Lys Asn Thr Lys Asn Leu Pro Leu Ala Phe Met Leu Phe Val
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 340 345 350
 Glu Ser Arg Gly Tyr Ala
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 Ala Leu Ser Gly Gly Ser Asp Ser Leu Phe Leu Phe Tyr Leu Leu Lys
 35 40 45
 Glu Arg Gly Val Ser Phe Thr Ala Val His Ile Asp His Gly Trp Arg
 50 55 60
 Ser Thr Ser Ala Gln Glu Ala Lys Glu Leu Glu Glu Leu Cys Ala Arg
 65 70 75 80
 Glu Gly Val Pro Phe Val Leu Tyr Thr Leu Thr Ala Glu Glu Gln Gly
 85 90 95
 Asp Lys Asp Leu Glu Asn Gln Ala Arg Lys Lys Arg Tyr Ala Phe Leu
 100 105 110
 Tyr Glu Ser Tyr Arg Gln Leu Asp Ala Gly Gly Ile Phe Leu Ala His
 115 120 125
 His Ala Asn Asp Gln Ala Glu Thr Val Leu Lys Arg Leu Leu Glu Ser
 130 135 140
 Ala His Leu Thr Asn Leu Lys Ala Met Ala Glu Arg Ser Tyr Val Glu
 145 150 155 160
 Asp Val Leu Leu Leu Arg Pro Leu Leu His Ile Pro Lys Ser Ser Leu
 165 170 175
 Lys Glu Ala Leu Asp Ala Arg Gly Ile Ser Tyr Leu Gln Asp Pro Ser
 180 185 190
 Asn Glu Asp Glu Arg Tyr Leu Arg Ala Arg Met Arg Lys Lys Leu Phe
 195 200 205
 Pro Trp Leu Glu Glu Val Phe Gly Lys Asn Ile Thr Phe Pro Leu Leu
 210 215 220
 Thr Leu Gly Glu Glu Ser Ala Glu Leu Ser Glu Tyr Leu Glu Lys Gln
 225 230 235 240
 Ala Gln Pro Phe Phe Ser Ala Ala Thr His Gln Asp Ser Gln Gly Glu
 245 250 255
 Leu Pro Cys Pro Asp Cys Leu Ile Gln Gln Ala Phe Leu Cys Lys Trp
 260 265 270
 Val Met Lys Lys Phe Phe Asn Asn Ala Gly Ile Ala Val Ser Arg His
 275 280 285
 Phe Leu Gln Met Val Tyr Asp His Leu Ser Arg Ser Ser Cys Ala Thr
 290 295 300
 Leu Arg Met Arg Asn Lys Ile Val Ile Ile Lys Pro Gly Val Val Val
 305 310 315 320
 Ile Asp

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn0998

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			20				25					30			
Gly	Val	Val	Phe	Gly	Val	Val	Ala	Phe	Gln	Asn	Phe	Leu	Ala	Gly	Lys
			35				40					45			
Lys	Ala	Arg	Val	Gly	Phe	Ser	His	Gln	Ile	Glu	His	Leu	Val	Asn	Leu
	50				55					60					
Arg	Leu	Ile	Val	Pro	Glu	Asp	Ser	His	Lys	Ile	Ala	Leu	Asn	Asp	Asn
65					70					75				80	
Leu	Val	Ser	Phe	Gly	Gly	Arg	Phe	Arg	Asp	Val	Gln	Thr	Gln	Glu	Gly
			85						90					95	
Gln	Leu	Arg	Tyr	His	Tyr	Leu	Glu	Leu	Ile	Asp	Gln	Gly	His	Arg	Leu
			100				105						110		
Asp	Leu	Asp	Leu	Gln	Glu	Thr	Ser	Lys	Ser	Leu	Thr	Thr	Leu	Gly	Lys
	115						120					125			
Glu	Val	Thr	Asn	Ser	Ile	Leu	Trp	Phe	Ser	Ala	Ile	Ser	Gly	Ser	Pro
	130					135					140				
Ile	Pro	Glu	Gln	Gly	Tyr	Ala	Ile	Ser	Tyr	Pro	Ser	Glu	Val	Ser	Gly
145					150					155				160	
Ser	Val	Leu	Thr	Glu	Pro	Leu	Val	Val	Thr	Gly	Pro	Ala	Thr	Pro	Gln
				165					170					175	
Leu	Ile	Asn	Leu	His	Ser	Leu	Gln	Glu	Arg	Tyr	Pro	Thr	Leu	Ser	Arg
		180					185						190		
Ser	Pro	Glu	Ala	Leu	Arg	Thr	Tyr	Gly	Ser	Asp	Leu	Tyr	Glu	Leu	Ile
		195					200					205			
Gly	Lys	Tyr	Leu	Ser	Pro	Val	Leu	Gly	Ile	Gly	Ser	Glu	Thr	Leu	Lys
	210					215					220				
Arg	Glu	Leu	Lys	Asp	Leu	Tyr	Gln	Gln	Val	Glu	Val	Ser	Leu	Thr	Gln
225					230					235				240	
Glu	Thr	Asp	Thr	Glu	Ala	Ala	Tyr	Thr	Leu	Tyr	Gly	Gln	Val	Leu	Ser
				245					250					255	
Thr	Leu	Asn	Arg	Ile	Ser	Ser	Ser	Leu	Val	Val	Ser	Glu	Gly	Gly	Glu
		260						265					270		
Arg	Phe	Ser	Gln	Leu	Arg	Ser	Val	Arg	Leu	Tyr	Arg	Glu	Glu	Trp	Asn
		275					280					285			
Lys	Tyr	His	Lys	Leu	Val	Glu	Ala	Arg	Asp	Leu	Asn	Gln	Ala	Gln	Leu
		290				295					300				
Glu	Lys	Leu	Arg	Gly	Glu	Leu	Ser	Gln	Thr	Val	Trp	Tyr	Phe	Asn	Asn
305					310					315				320	
Gln	Glu	Leu	Ser	Ser	Arg	Ser	Leu	Glu	Lys	Gln	Asp	Pro	Glu	Val	Phe
				325					330					335	
Gly	His	Trp	Phe	Ala	Gly	Ala	Lys	Glu	Glu	Trp	Thr	Ala	Phe	Lys	Phe
			340					345					350		
Asn	His	Ser	Leu	Ser	Phe	Lys	Ala	Pro	Asp	Gln	Pro	Arg	Asn	Leu	Val
		355					360					365			
Leu	Glu	Lys	Thr	Phe	Lys	Ser	Gln	Glu	Pro	Ser	Pro	His	Tyr	Leu	Gly
	370					375					380				
Tyr	Leu	Phe	Thr	Phe	Leu	Pro	Ile	Ile	Leu	Val	Leu	Leu	Phe	Val	Tyr
385					390					395				400	
Leu	Val	Phe	Ser	Arg	Gln	Met	Arg	Gly	Met	Ser	Gly	Ser	Ala	Met	Ser
				405					410					415	
Phe	Gly	Lys	Ser	Pro	Ala	Arg	Met	Leu	Leu	Lys	Gly	Gln	Asn	Lys	Val
				420				425					430		
Thr	Phe	Ala	Asp	Val	Ala	Gly	Ile	Glu	Glu	Ala	Lys	Glu	Glu	Leu	Ile
		435					440					445			
Glu	Ile	Val	Asp	Phe	Leu	Lys	Asn	Pro	Asn	Lys	Phe	Thr	Ser	Leu	Gly
	450					455					460				
Gly	Arg	Ile	Pro	Lys	Gly	Val	Leu	Leu	Ile	Gly	Pro	Pro	Gly	Thr	Gly
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<223> CPn0999

<400> 1000

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			20					25					30			
Gly	Ala	Val	Leu	Val	Arg	Ser	Gly	Glu	Thr	Cys	Val	Phe	Ala	Ser	Ala	
		35					40					45				
Cys	Ala	Val	Asp	Leu	Asp	Asp	Lys	Val	Asp	Phe	Leu	Pro	Leu	Arg	Val	
	50					55					60					
Asp	Tyr	Gln	Glu	Lys	Phe	Ser	Ser	Thr	Gly	Lys	Thr	Leu	Gly	Gly	Phe	
65					70					75					80	
Ile	Lys	Arg	Glu	Gly	Arg	Pro	Ser	Glu	Lys	Glu	Ile	Leu	Val	Ser	Arg	
			85					90						95		
Leu	Ile	Asp	Arg	Ser	Leu	Arg	Pro	Ser	Phe	Pro	Tyr	Arg	Leu	Met	Gln	
			100					105					110			
Asp	Val	Gln	Val	Leu	Ser	Tyr	Val	Trp	Ser	Tyr	Asp	Gly	Gln	Val	Leu	
		115					120					125				
Pro	Asp	Pro	Leu	Ala	Ile	Cys	Ala	Ala	Ser	Ala	Ala	Leu	Ala	Ile	Ser	
	130					135					140					
Asp	Ile	Pro	Gln	Ser	Asn	Ile	Val	Ala	Gly	Val	Arg	Ile	Gly	Cys	Ile	
145					150					155					160	
Asp	Asn	Gln	Trp	Val	Ile	Asn	Pro	Thr	Lys	Thr	Glu	Leu	Ala	Ser	Ser	
			165					170							175	
Thr	Leu	Asp	Leu	Val	Leu	Ala	Gly	Thr	Glu	Asn	Ala	Ile	Leu	Met	Ile	
			180					185					190			
Glu	Gly	His	Cys	Asp	Phe	Phe	Thr	Glu	Glu	Gln	Val	Leu	Asp	Ala	Ile	
		195					200					205				
Glu	Phe	Gly	His	Lys	His	Ile	Val	Thr	Ile	Cys	Lys	Arg	Leu	Gln	Leu	
	210					215					220					
Trp	Gln	Glu	Glu	Val	Gly	Lys	Ser	Lys	Asn	Leu	Ser	Ala	Val	Tyr	Pro	
225					230					235					240	
Leu	Pro	Ala	Glu	Val	Leu	Thr	Ala	Val	Lys	Glu	Cys	Ala	Gln	Asp	Lys	
			245						250					255		
Phe	Thr	Glu	Leu	Phe	Asn	Ile	Lys	Asp	Lys	Lys	Val	His	Ala	Ala	Thr	
			260					265					270			
Ala	His	Glu	Ile	Glu	Glu	Asn	Ile	Leu	Glu	Lys	Leu	Gln	Arg	Glu	Asp	
		275					280					285				
Asp	Asp	Leu	Phe	Ser	Ser	Phe	Asn	Ile	Lys	Ala	Ala	Cys	Lys	Thr	Leu	
	290					295					300					
Lys	Ser	Asp	Thr	Met	Arg	Ala	Leu	Ile	Arg	Asp	Arg	Glu	Ile	Arg	Ala	
305					310					315					320	
Asp	Gly	Arg	Ser	Leu	Thr	Thr	Val	Arg	Pro	Ile	Thr	Ile	Glu	Thr	Ser	
			325						330					335		
Tyr	Leu	Pro	Arg	Thr	His	Gly	Ser	Cys	Leu	Phe	Thr	Arg	Gly	Glu	Thr	
			340					345					350			
Gln	Thr	Leu	Ala	Val	Cys	Thr	Leu	Gly	Ser	Glu	Ala	Met	Ala	Gln	Arg	
		355						360				365				
Tyr	Glu	Asp	Leu	Asn	Gly	Glu	Gly	Leu	Ser	Lys	Phe	Tyr	Leu	Gln	Tyr	
	370					375					380					
Phe	Phe	Pro	Pro	Phe	Ser	Val	Gly	Glu	Val	Gly	Arg	Ile	Gly	Ser	Pro	
385					390					395					400	
Gly	Arg	Arg	Glu	Ile	Gly	His	Gly	Lys	Leu	Ala	Glu	Lys	Ala	Leu	Ser	
			405						410					415		
His	Ala	Leu	Pro	Asp	Ser	Ala	Thr	Phe	Pro	Tyr	Thr	Ile	Arg	Ile	Glu	
			420						425				430			
Ser	Asn	Ile	Thr	Glu	Ser	Asn	Gly	Ser	Ser	Ser	Met	Ala	Ser	Val	Cys	
		435					440					445				

Gly	Gly	Cys	Leu	Ala	Leu	Met	Asp	Ala	Gly	Val	Pro	Ile	Ser	Ser	Pro
450						455					460				
Ile	Ala	Gly	Ile	Ala	Met	Gly	Leu	Ile	Leu	Asp	Asp	Gln	Gly	Ala	Ile
465					470					475					480
Ile	Leu	Ser	Asp	Ile	Ser	Gly	Leu	Glu	Asp	His	Leu	Gly	Asp	Met	Asp
			485						490					495	
Phe	Lys	Ile	Ala	Gly	Ser	Gly	Lys	Gly	Ile	Thr	Ala	Phe	Gln	Met	Asp
			500					505					510		
Ile	Lys	Val	Glu	Gly	Ile	Thr	Pro	Ala	Ile	Met	Lys	Lys	Ala	Leu	Ser
		515					520					525			
Gln	Ala	Lys	Gln	Gly	Cys	Asn	Asp	Ile	Leu	Asn	Ile	Met	Asn	Glu	Ala
	530					535					540				
Leu	Ser	Ala	Pro	Lys	Ala	Asp	Leu	Ser	Gln	Tyr	Ala	Pro	Arg	Ile	Glu
545					550					555					560
Thr	Met	Gln	Ile	Lys	Pro	Thr	Lys	Ile	Ala	Ser	Val	Ile	Gly	Pro	Gly
				565					570					575	
Gly	Lys	Gln	Ile	Arg	Gln	Ile	Ile	Glu	Glu	Thr	Gly	Val	Gln	Ile	Asp
			580					585					590		
Val	Asn	Asp	Leu	Gly	Val	Val	Ser	Ile	Ser	Ala	Ser	Ser	Ala	Ser	Ala
	595						600					605			
Ile	Asn	Lys	Ala	Lys	Glu	Ile	Ile	Glu	Gly	Leu	Val	Gly	Glu	Val	Glu
	610					615					620				
Val	Gly	Lys	Thr	Tyr	Arg	Gly	Arg	Val	Thr	Ser	Val	Val	Ala	Phe	Gly
625					630					635					640
Ala	Phe	Val	Glu	Val	Leu	Pro	Gly	Lys	Glu	Gly	Leu	Cys	His	Ile	Ser
				645					650					655	
Glu	Cys	Ser	Arg	Gln	Arg	Ile	Glu	Asn	Ile	Ser	Asp	Val	Val	Lys	Glu
			660					665					670		
Gly	Asp	Ile	Ile	Asp	Val	Lys	Leu	Leu	Ser	Ile	Asn	Glu	Lys	Gly	Gln
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Leu	Lys	Leu	Ser	His	Lys	Ala	Thr	Leu	Glu						
	690					695									

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 <213> Chlamydia pneumoniae

<220>
 <223> CPn1000

Ser	Ala	Phe	Ala	Ala	Ile	Ile	Leu	Arg	Arg	His	Pro	Met	Ser	Leu	Asp
1				5					10					15	
Lys	Gly	Thr	Lys	Glu	Glu	Ile	Thr	Lys	Lys	Phe	Gln	Leu	His	Glu	Lys
			20					25					30		
Asp	Thr	Gly	Ser	Ala	Asp	Val	Gln	Ile	Ala	Ile	Leu	Thr	Glu	His	Ile
		35					40					45			
Ala	Glu	Leu	Lys	Glu	His	Leu	Lys	Arg	Ser	Pro	Lys	Asp	Gln	Asn	Ser
	50					55					60				
Arg	Leu	Ala	Leu	Leu	Lys	Leu	Val	Gly	Gln	Arg	Arg	Lys	Leu	Leu	Glu
65					70				75						80
Tyr	Leu	Asn	Ser	Thr	Asp	Thr	Glu	Arg	Tyr	Lys	Asn	Leu	Ile	Thr	Arg
				85				90						95	
Leu	Asn	Leu	Arg	Lys											
			100												

<210> 1002
 <211> 167
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn1001

<400> 1002

Tyr Tyr Leu Glu Leu Gly Gly Glu Lys Leu Ile Asn Met Glu Lys Asp
1 5 10 15
Ile Phe Phe Met Gln Gln Ala Phe Lys Glu Ala Arg Lys Ala Tyr Asp
20 25 30
Gln Asp Glu Val Pro Val Gly Cys Val Ile Val Lys Asp Asp Lys Ile
35 40 45
Ile Ala Arg Ala His Asn Ser Val Glu Lys Leu Lys Asp Ala Thr Ala
50 55 60
His Ala Glu Ile Leu Cys Ile Gly Ser Ala Ala Gln Asp Leu Asp Asn
65 70 75 80
Trp Arg Leu Leu Asp Thr Val Leu Tyr Cys Thr Leu Glu Pro Cys Leu
85 90 95
Met Cys Ala Gly Ala Ile Gln Leu Ala Arg Ile Pro Arg Ile Val Trp
100 105 110
Ala Ala Pro Asp Val Arg Leu Gly Ala Gly Gly Ser Trp Val Asn Ile
115 120 125
Phe Thr Glu Glu His Pro Phe His Thr Val Ser Cys Thr Gly Gly Val
130 135 140
Cys Ser Glu Glu Ala Glu His Leu Met Lys Lys Phe Phe Val Glu Lys
145 150 155 160
Arg Arg Glu Lys Ser Glu Lys
165

<210> 1003

<211> 82

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1002

<400> 1003

Lys Ser Ala Glu Arg Lys Val Lys Asn Lys Ile Val Thr Leu Leu Asp
1 5 10 15
Gln Leu Tyr Glu Asp Gln Glu Ser Arg Leu Gln Lys Leu Gly Glu Glu
20 25 30
Ile Val Pro Asn Leu Thr Pro Glu Asp Leu Leu Gln Pro Met Asp Phe
35 40 45
Pro Gln Leu Glu Gly Asn Pro Ala Phe Arg Phe Glu Glu Gly Val Leu
50 55 60
Ser Gly Ile Gly Glu Val Arg Ala Ala Ile Leu Ala Ala Leu Ser Gln
65 70 75 80
Glu Asn

<210> 1004

<211> 257

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1003

<400> 1004

Thr Ser Asn Lys Thr Ile His Pro Leu Leu Trp Gly Pro Asp Arg Gln
1 5 10 15

Ile	Ala	Gly	Lys	Ala	Ser	Met	Arg	Val	Ile	Phe	Pro	Asp	Lys	His	Asn
			20					25					30		
Asn	Phe	Pro	Asn	Leu	Ser	Lys	Leu	Leu	Lys	Lys	Leu	Pro	Ser	Val	Ile
		35					40					45			
Leu	Val	Thr	Ser	Cys	Ile	Ala	Pro	Phe	Phe	Ser	Tyr	Ile	Ile	Asn	Lys
	50					55					60				
Phe	Phe	Gly	Ile	Pro	Gly	Leu	Leu	Glu	Ile	Leu	Ala	Leu	Ser	Val	Lys
65					70					75					80
Gly	Ile	Gln	Lys	His	His	Phe	Trp	Gln	Phe	Leu	Thr	Tyr	Pro	Leu	Ile
				85					90					95	
Thr	Ala	Asp	Ser	Leu	Ser	Leu	Asn	Lys	Asp	Gln	Ser	Phe	Glu	Ile	Thr
			100					105					110		
Gln	Arg	Leu	Leu	Leu	Arg	Asn	Val	Leu	Asp	Phe	Phe	Leu	Phe	Tyr	Lys
		115					120					125			
Ala	Ile	Gln	His	Leu	Ile	Arg	Lys	Leu	Gly	Ala	Phe	Ser	Val	Leu	Val
	130					135				140					
Val	Ile	Ser	Gly	Gln	Ala	Leu	Ile	Ile	Gly	Ala	Val	Leu	Trp	Gly	Phe
145					150					155					160
Met	Ala	Leu	Ile	His	Ser	Ser	Gln	Ser	Phe	Phe	Gly	Pro	Glu	Ser	Ile
				165					170					175	
Ile	Cys	Gly	Val	Leu	Thr	Val	Gln	Ile	Phe	Leu	Asp	Pro	Glu	Lys	Arg
			180				185						190		
Phe	Thr	Ile	Gly	Pro	Thr	Pro	Leu	Ser	Val	Ser	Ile	Lys	Trp	Gly	Phe
	195					200						205			
Leu	Phe	Val	Leu	Gly	Phe	Tyr	Cys	Cys	Ile	Leu	Ile	Phe	Ser	Gly	Ala
	210					215				220					
Phe	Leu	Leu	Leu	Leu	Ala	Ser	Met	Leu	Ala	Ile	Val	Leu	Ala	Ile	Leu
225					230					235					240
Phe	Cys	Lys	Lys	Glu	Lys	Ile	Pro	Asn	Pro	Tyr	Thr	Thr	Ser	Leu	Arg
				245					250					255	

Phe

<210> 1005
 <211> 180
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1004

<400> 1005

His	Leu	Ser	Ile	Glu	Glu	Leu	Met	Ser	Ile	Gln	Pro	Val	Ser	Asn	Thr
1				5					10					15	
Thr	Thr	Lys	Ala	Asp	Lys	Val	Ile	Pro	Asp	Ser	Thr	Lys	Val	Ile	Ser
			20					25					30		
Asp	Ser	Ile	Thr	Ile	Asn	Lys	Gln	Ser	Ala	Phe	Tyr	Phe	Cys	Ile	Ser
		35					40					45			
Val	Met	Leu	Arg	Leu	Ser	Glu	Ser	Thr	Thr	Glu	Tyr	Gly	Lys	Ser	Ile
	50					55				60					
Leu	Ala	Val	Leu	Glu	Asp	Asn	Thr	Ile	Val	Gln	Gln	Gln	Arg	Val	Lys
65					70					75					80
Glu	Leu	Ile	Asn	Leu	Pro	Leu	Leu	Lys	Val	Pro	Asp	Leu	Gln	Lys	Lys
			85						90					95	
Asp	Gly	Ser	Asp	Asp	Glu	Tyr	Lys	Asn	Gln	Asn	Glu	Ile	Gln	Ala	Tyr
			100				105						110		
Gln	Ser	Ser	Asn	Gln	Gln	Ile	Ser	Ala	Asn	Arg	Gln	Met	Ile	Gln	Gln
		115					120					125			
Glu	Leu	Ser	Ser	Ala	Gln	Gln	Arg	Ala	Gln	Ala	Asn	Gln	Lys	Ser	Val
	130					135					140				

Asn Ser Thr Thr Ile Glu Ser Met Gln Ile Leu Gln Ala Thr Ser Ser
 145 150 155 160
 Met Leu Ser Thr Leu Lys Glu Leu Thr Ile Lys Ala Asn Leu Thr Asn
 165 170 175
 Ser Pro Ser Asp
 180

<210> 1006
 <211> 181
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1005

<400> 1006
 Asn Arg Lys Pro Val Arg Leu Asn Met Trp Ile Ile Asp Pro Leu Ser
 1 5 10 15
 Ala Lys Lys Pro Leu Gln Ala Ala Ile Asn Val Pro Gly Thr Pro Ile
 20 25 30
 Thr Gly Gly Pro Asn Thr Ala Thr Ala Asp Asp Ile Ile Ala Lys Phe
 35 40 45
 Ser Lys Asp Ser Asn Pro Leu Ile Val Thr Val Tyr Tyr Val Tyr Gln
 50 55 60
 Ser Val Leu Val Ala Gln Asp Asn Leu Ser Ile Ile Ala Gln Glu Leu
 65 70 75 80
 Gln Ala Asn Ser Ser Ala Gln Thr Tyr Leu Asn Asn Gln Glu Ala Leu
 85 90 95
 Tyr Gln Tyr Val Ser Ile Pro Lys Asn Lys Leu Asn Asp Asn Ser Ser
 100 105 110
 Ser Tyr Leu Gln Asn Ile Gln Ser Asp Asn Gln Ala Ile Gly Ala Ser
 115 120 125
 Arg Gln Ala Ile Gln Asn Gln Ile Ser Ser Leu Gly Asn Ala Ala Gln
 130 135 140
 Val Ile Ser Ser Asn Leu Asn Thr Asn Asn Asn Ile Ile Gln Gln Ser
 145 150 155 160
 Leu Gln Val Gly Gln Ala Leu Ile Gln Thr Phe Ser Gln Ile Val Ser
 165 170 175
 Leu Ile Ala Asn Ile
 180

<210> 1007
 <211> 168
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1006

<400> 1007
 Thr Lys Val Asn Phe Phe Ile Met Ser Ile Thr Thr Leu Gly Thr Leu
 1 5 10 15
 Pro Thr Val Asn Thr Ile Asn Ser Ser Arg Pro Pro Leu Glu Pro Leu
 20 25 30
 Asn Thr Pro Lys Ile Gly Ala Val Leu Phe Ser Ile Tyr Glu Leu Leu
 35 40 45
 Leu Gln Ala Ile Glu Ile Arg Gln Gln Thr Val Leu Thr Gln Ser Gln
 50 55 60
 Gln Leu Asn Asp Asn Thr Asn Ile Gln Gln Gln Leu Asn Gln Glu Thr
 65 70 75 80

Asn Gln Ile Lys Tyr Ala Ile Val Ser Ala Gly Ala Lys Glu Asp Glu
 85 90 95
 Ile Thr Arg Val Gln Asn Gln Asn Gln Asn Tyr Ser Ala Gln Arg Ser
 100 105 110
 Asn Ile Gln Asp Glu Leu Val Thr Thr Arg Gln Asn Gly Gln Ile Ile
 115 120 125
 Leu Ser His Ala Ser Thr Asn Ile Asn Ile Ile Gln Gln Gln Ser Ser
 130 135 140
 Gln Asp Ser Ser Phe Ile Lys Thr Thr Asn Ser Ile Gly Ser Thr Val
 145 150 155 160
 Asn Gln Leu Asn Lys Pro Leu Gly
 165

<210> 1008
 <211> 73
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1007

<400> 1008
 Leu Trp Tyr Lys Ser Leu Ala Gly Glu Glu Lys Asp Val Ser Gly Asn
 1 5 10 15
 Glu Cys Asn Asp Tyr Pro Glu Val Phe Lys Asp Asp Val Ser Ala Tyr
 20 25 30
 Val Leu Val Thr Cys Gly Gln Met Ser Ser Glu Gly Lys Ile Gln Val
 35 40 45
 Glu Met Thr Tyr Glu Gly Asp Pro Ala Val Ile Ser Tyr Leu Leu Thr
 50 55 60
 Lys Ala Arg Asp Ser Leu Asp Glu Ser
 65 70

<210> 1009
 <211> 440
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1008

<400> 1009
 Val Leu Asn Tyr Ser Phe Ile Gly Met Leu Lys Pro Met Tyr Val Leu
 1 5 10 15
 Ser Lys Arg Leu Tyr Arg Trp Val Asn Gln Leu Ile Lys Leu Gly Asp
 20 25 30
 Leu Val Lys Asn Ser Arg Ser Phe Ser Val Glu Trp Val Phe Ile Ser
 35 40 45
 Ala Leu Leu Leu Ile Phe Gly Cys Leu Gly Cys Ala Ser Val Val Lys
 50 55 60
 Val Ser Leu Val Pro Phe Leu Leu Leu Phe Ser Phe Leu Ala Phe Pro
 65 70 75 80
 Leu Ile Leu Cys Phe Arg Gly Lys Gly Tyr Ala Leu Leu Leu Gly Val
 85 90 95
 Phe Val Thr Leu Tyr Val Ala Lys Tyr Val Val Gly Glu Thr Leu Tyr
 100 105 110
 Val Ser Phe Trp Leu Ser Gly Leu Gly Val Ser Phe Leu Ala Phe
 115 120 125
 Gly Leu Phe Leu Gln Gly Val Trp Leu Ala Gln Glu Glu Glu Met Val
 130 135 140

Lys Gly Lys Glu Gln Leu Arg Leu Ser Glu Asp Leu Asp Ala Gln Arg
 145 150 155 160
 Ser Ala Tyr Glu Asp Leu Leu Leu Thr Lys Ser Gln Glu Lys Glu Phe
 165 170 175
 Leu Asp Ala Arg Ala Gln Gly Leu Asp Arg Glu Leu Thr Glu Cys Gln
 180 185 190
 Glu Leu Leu Lys Ala Ala Tyr Gln Lys Gln Glu Tyr Leu Thr Ile Asp
 195 200 205
 Leu Lys Ile Leu Ala Asp Gln Lys Asn Ser Trp Leu Glu Asp Tyr Ala
 210 215 220
 Glu Leu His Asn Lys Tyr Ile Glu Leu Val Ser Lys Asn Gly Asp Val
 225 230 235 240
 Val Phe Pro Trp Val Ala Glu Pro Ser Val Gly Glu Ser Gln Gly Ser
 245 250 255
 Glu Arg Val Asp Val Ser Arg Trp Val Ser Ala Leu Gln Glu Lys Glu
 260 265 270
 Glu Ser Leu Glu Arg Leu Arg Asn Glu Ile Leu Val Glu Lys Gln Arg
 275 280 285
 Cys Ser Asp Tyr Glu His Arg Cys Gln Glu Leu Gly Leu Leu Leu Gln
 290 295 300
 Asn Phe Thr Ala Leu Glu Arg Arg Cys Glu Glu Leu Gln Asn Leu Leu
 305 310 315 320
 Asn Gln Lys Glu Thr Gln Ile Asn Glu Leu His Gln Leu Val Cys Lys
 325 330 335
 Ser Glu Glu Lys Val Ser Val Glu Pro Ser Ala His Ala Glu Thr Ser
 340 345 350
 Cys Val Glu Glu Lys Gln Tyr Lys Gly Leu Tyr Ser Gln Leu Gln Glu
 355 360 365
 Gln Phe Leu Glu Lys Ser Glu Thr Leu Ser Leu Val Arg Lys Lys Leu
 370 375 380
 Phe Ala Val Gln Glu Lys Tyr Leu Thr Leu Lys Lys Lys Glu Glu Leu
 385 390 395 400
 Thr Lys Gln Asp Ile Ser Phe Asp Asp Ile Ser Met Ile Gln Gly Leu
 405 410 415
 Leu Glu Arg Ile Glu Ile Leu Glu Glu Val Ser His Leu Glu Glu
 420 425 430
 Leu Val Ser Arg Ser Leu Ser Leu
 435 440

<210> 1010

<211> 300

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1009

<400> 1010

Tyr Arg Leu Leu His Arg Val Ile Leu Met Lys Arg Asn Asp Pro Cys
 1 5 10 15
 Trp Cys Gly Ser Gly Arg Lys Trp Lys Gln Cys His Tyr Pro Gln Pro
 20 25 30
 Pro Lys Met Ser Pro Glu Ala Leu Lys Gln His Tyr Ala Ser Gln Tyr
 35 40 45
 Asn Ile Leu Leu Lys Thr Pro Glu Gln Lys Ala Lys Ile Tyr Asn Ala
 50 55 60
 Cys Gln Ile Thr Ala Arg Ile Leu Asp Glu Leu Cys Lys Ala Ser Gln
 65 70 75 80
 Lys Gly Val Thr Thr Asn Glu Leu Asp Glu Leu Ser Gln Glu Leu His
 85 90 95

Lys	Lys	Tyr	Asp	Ala	Ile	Ala	Ala	Pro	Phe	His	Tyr	Gly	Ser	Pro	Pro
			100					105					110		
Phe	Pro	Lys	Thr	Ile	Cys	Thr	Ser	Leu	Asn	Glu	Val	Ile	Cys	His	Gly
		115					120					125			
Ile	Pro	Asn	Asp	Ile	Pro	Leu	Lys	Asp	Gly	Asp	Ile	Met	Asn	Ile	Asp
		130					135					140			
Val	Ser	Cys	Ile	Val	Asp	Gly	Tyr	Tyr	Gly	Asp	Cys	Ser	Arg	Met	Val
					150					155				160	
Met	Ile	Gly	Glu	Val	Pro	Glu	Ile	Lys	Lys	Lys	Ile	Cys	Gln	Ala	Ala
				165					170					175	
Leu	Glu	Cys	Leu	Asn	Asp	Ser	Ile	Ala	Ile	Leu	Lys	Pro	Gly	Ile	Pro
			180					185					190		
Leu	Cys	Glu	Ile	Gly	Glu	Ala	Ile	Glu	Ala	Arg	Ala	Asp	Thr	Tyr	Gly
		195					200					205			
Phe	Ser	Val	Val	Asp	Gln	Phe	Val	Gly	His	Gly	Val	Gly	Ile	Glu	Phe
		210				215					220				
His	Glu	Asn	Pro	Tyr	Val	Pro	His	Tyr	Arg	Asn	Arg	Ser	Met	Ile	Pro
		225			230					235				240	
Leu	Ala	Pro	Gly	Met	Ile	Phe	Thr	Ile	Glu	Pro	Met	Ile	Asn	Val	Gly
			245						250					255	
Lys	Lys	Glu	Gly	Val	Val	Asp	Pro	Lys	Asn	Gln	Trp	Glu	Ala	Arg	Thr
			260					265					270		
Cys	Asp	Asn	Gln	Pro	Ser	Ala	Gln	Trp	Glu	His	Thr	Ile	Ala	Ile	Thr
		275					280					285			
Glu	Thr	Gly	Tyr	Glu	Ile	Leu	Thr	Leu	Leu	Asn	Asp				
		290				295					300				

<210> 1011

<211> 203

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1010

<400> 1011

Val	Met	Leu	Ile	Leu	Leu	Asn	Leu	Ser	Leu	Leu	Phe	Tyr	Val	Leu	Phe
1				5					10					15	
Asp	Ser	Pro	Gly	Ser	Ile	Pro	Val	Phe	Val	Ala	Leu	Leu	Lys	Asn	Phe
			20					25					30		
Ser	Arg	Lys	Lys	Gln	Gln	Arg	Val	Ile	Leu	Arg	Glu	Cys	Leu	Phe	Ala
		35					40					45			
Leu	Gly	Ala	Leu	Ile	Leu	Phe	Val	Thr	Phe	Gly	Arg	Ser	Phe	Phe	Gln
		50				55					60				
Phe	Leu	Asp	Ile	Ser	Leu	Tyr	Ala	Phe	Gln	Ile	Ile	Gly	Gly	Phe	Leu
		65				70				75				80	
Leu	Phe	Thr	Val	Ser	Ile	Lys	Met	Met	Leu	Ala	Pro	Met	Pro	Glu	Lys
				85					90					95	
Ala	Lys	Asp	Asp	Thr	Ser	Lys	Thr	Glu	Pro	Ile	Phe	Phe	Pro	Leu	Ala
			100					105					110		
Phe	Pro	Val	Ile	Thr	Gly	Pro	Ala	Val	Ile	Thr	Ala	Leu	Leu	Ser	Tyr
		115					120					125			
Met	Glu	Glu	Gly	Ile	Tyr	Ser	Arg	Glu	Ile	Ile	Phe	Thr	Ala	Met	Ile
		130					135				140				
Ile	Ala	Trp	Ala	Phe	Ser	Leu	Phe	Thr	Leu	Leu	Cys	Ser	Ser	Phe	Phe
		145			150					155				160	
Asp	Arg	Leu	Phe	Gly	Asn	Phe	Gly	Leu	Leu	Ala	Leu	Glu	Arg	Leu	Phe
			165					170						175	
Gly	Ile	Ala	Leu	Leu	Leu	Met	Ser	Val	Asn	Leu	Met	Leu	Lys	Gly	Ile
			180					185					190		

Ser Ile Ala Phe Asn Ile Gly Phe Tyr Ile Gly
 195 200

<210> 1012
 <211> 136
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1011

<400> 1012
 Glu Met Arg Leu Lys Asn Tyr Pro Met Ile Gln Phe Ser Phe Phe Leu
 1 5 10 15
 Pro Gln Thr Cys Ile Leu Leu Leu Ala Ser Asp Ser Leu Thr Asn Ile
 20 25 30
 Leu Ala Leu His His Leu Leu Ala Asn Tyr Ser Val Lys Gln Arg Met
 35 40 45
 Leu Val Leu Leu Arg Glu Ser Phe Phe Ala Phe Ile Ala Met Phe Ala
 50 55 60
 Leu Tyr Gly Leu Ala Leu Gly Gly Leu Lys Val Leu Asn Thr Pro Val
 65 70 75 80
 Cys Ala Ile Glu Val Val Gly Gly Ile Ala Val Thr Leu Ala Gly Val
 85 90 95
 Arg Ala Val Leu Arg Leu Gly Lys Glu Glu Ser Trp Ile Pro Tyr Lys
 100 105 110
 Phe Asn Met Ser Pro Ser Tyr Ser Pro Cys Ile Ser Pro Ile Ala Leu
 115 120 125
 Pro Leu Met Phe Gly Pro Ser Gly
 130 135

<210> 1013
 <211> 600
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1012

<400> 1013
 Ala Ile Phe Ser Leu Ile Thr Ser Lys Met Lys Lys Lys Phe Ile Phe
 1 5 10 15
 Tyr Phe Val Ile Val Phe Ser Leu Leu Phe Leu Trp Glu Met Thr Ser
 20 25 30
 Arg His Arg Pro Thr Phe Ser Phe Phe Cys Pro Pro Pro Ser Ser Ile
 35 40 45
 Ala Ser Ser Thr Leu Gln Ser Leu Pro Leu Leu Leu Thr Ser Ala Trp
 50 55 60
 His Thr Leu Lys Ala Ile Leu Gly Gly Phe Phe Leu Ala Ile Thr Leu
 65 70 75 80
 Ser Ile Val Leu Ala Thr Ile Met Leu Ser Tyr Lys Ser Ala Lys Asp
 85 90 95
 Leu Leu Gln Pro Leu Phe Ile Leu Leu Gln Cys Thr Pro Met Phe Ala
 100 105 110
 Leu Ala Pro Leu Ile Val Leu Trp Phe Gly Trp Gly Ile Gly Ala Val
 115 120 125
 Ile Val Pro Thr Ala Leu Thr Ile Phe Phe Pro Leu Thr Leu Thr Ile
 130 135 140
 Tyr Gln Gly Ile Leu Ser Thr Pro Glu Glu Leu Ile Glu Gln Phe Val
 145 150 155 160

Leu	Cys	Gly	Ala	Thr	Lys	Phe	Gln	Leu	Leu	Ile	Lys	Leu	Arg	Ile	Pro
				165					170					175	
His	Ala	Leu	Pro	His	Ile	Phe	Ser	Gly	Leu	Lys	Ile	Ala	Ile	Gly	Ser
			180					185					190		
Ala	Gly	Phe	Ala	Ala	Ile	Ala	Gly	Glu	Trp	Val	Ala	Ser	Gln	Ser	Gly
		195					200					205			
Leu	Gly	Ile	Leu	Met	Leu	Glu	Ser	Arg	Arg	Asn	Tyr	Glu	Met	Glu	Leu
	210					215					220				
Ala	Phe	Ala	Gly	Leu	Ala	Thr	Leu	Ser	Ile	Leu	Thr	Leu	Ser	Leu	Phe
225					230					235					240
Gln	Ile	Thr	Leu	Leu	Ile	Glu	Lys	Leu	Ile	Phe	Ser	Leu	Phe	Arg	Val
			245						250					255	
Lys	Arg	Met	Ser	Leu	Lys	His	Lys	Ser	Val	Ala	Lys	Lys	Ala	Leu	Ser
			260					265					270		
Val	Leu	Ala	Leu	Ile	Pro	Ile	Met	Leu	Ile	Pro	Trp	Lys	Gly	Asn	Ser
	275						280					285			
Lys	Ser	Pro	Pro	Asp	Lys	Lys	Asn	Leu	Thr	Ser	Leu	Thr	Leu	Leu	Leu
	290					295					300				
Asp	Trp	Thr	Pro	Asn	Pro	Asn	His	Ile	Pro	Leu	Tyr	Ala	Gly	Val	Ala
305					310				315						320
Lys	Gly	Tyr	Phe	Lys	Gln	His	Gly	Leu	Asp	Leu	Gln	Leu	Gln	Lys	Asn
			325					330						335	
Thr	Asp	Ser	Ser	Ser	Ala	Val	Pro	His	Val	Leu	Phe	Glu	Gln	Val	Asp
			340					345					350		
Met	Ala	Leu	Tyr	His	Ala	Leu	Gly	Ile	Met	Lys	Thr	Ser	Ile	Lys	Gly
	355						360					365			
Met	Pro	Ile	Gln	Ile	Val	Gly	Arg	Leu	Ile	Asp	Ser	Ser	Leu	Gln	Gly
	370					375				380					
Phe	Leu	Tyr	Arg	Ser	Gln	Asp	Pro	Ile	Tyr	Lys	Phe	Glu	Asp	Leu	Asn
385					390					395					400
Gly	Lys	Val	Leu	Gly	Phe	Cys	Leu	Asn	Asn	Ser	Arg	Asp	Leu	Asn	Arg
			405					410						415	
Leu	Leu	Glu	Thr	Leu	Asn	Arg	Asn	Gly	Val	Val	Pro	Ser	Glu	Val	Lys
			420					425					430		
Asn	Val	Ser	Ser	Asp	Leu	Ile	Ser	Pro	Met	Leu	Leu	Asn	Lys	Ile	Asp
	435						440					445			
Phe	Leu	Tyr	Gly	Ala	Phe	Tyr	Asn	Ile	Glu	Gly	Val	Lys	Leu	Gln	Thr
	450					455					460				
Leu	Gly	Met	Pro	Val	Lys	Cys	Phe	Leu	Ser	Asp	Thr	Cys	Asp	Leu	Pro
465					470					475					480
Thr	Gly	Pro	Gln	Leu	Ile	Val	Phe	Thr	Lys	Lys	Gly	Thr	Lys	Ala	Ser
			485					490						495	
Glu	Pro	Glu	Ile	Val	Glu	Ala	Phe	Gln	Lys	Ala	Leu	Gln	Glu	Ser	Ile
			500					505					510		
Ile	Phe	Ser	Lys	Asp	His	Pro	Glu	Asp	Ala	Phe	Lys	Leu	Tyr	Ala	Lys
	515						520					525			
Glu	Thr	Lys	Ser	Ile	Pro	Lys	Asn	Leu	Tyr	Gln	Glu	Tyr	Leu	Gln	Trp
	530					535					540				
Glu	Glu	Thr	Phe	Pro	Leu	Leu	Ala	Gln	Ser	Gln	Asp	Pro	Leu	Ser	Lys
545					550					555					560
Asp	Leu	Val	Asp	Lys	Leu	Leu	Glu	Thr	Ile	Ile	Lys	Arg	Tyr	Pro	Glu
			565					570						575	
Leu	Ala	Ser	Glu	Val	Ala	Lys	Phe	Ser	Leu	Asn	Asp	Leu	Tyr	Asn	Pro
			580					585					590		
Ser	Leu	Pro	Glu	Glu	Gln	Ser	Val								
		595					600								

<210> 1014

<211> 472

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1013

<400> 1014

Arg	Glu	Asn	Ser	Leu	Asn	His	Arg	Gly	Asn	Ile	Asp	Met	Arg	Gln	Glu
1				5					10					15	
Lys	Asp	Ser	Leu	Gly	Ile	Val	Glu	Val	Pro	Glu	Asp	Lys	Leu	Tyr	Gly
			20					25					30		
Ala	Gln	Thr	Met	Arg	Ser	Arg	Asn	Phe	Phe	Ser	Trp	Gly	Pro	Glu	Leu
		35					40					45			
Met	Pro	Tyr	Glu	Val	Ile	Arg	Ala	Leu	Val	Trp	Ile	Lys	Lys	Cys	Ala
	50					55					60				
Ala	Gln	Ala	Asn	Gln	Asp	Leu	Gly	Phe	Leu	Asp	Ser	Lys	His	Cys	Asp
65				70						75				80	
Met	Ile	Val	Ala	Ala	Ala	Asp	Glu	Ile	Leu	Glu	Gly	Gly	Phe	Glu	Glu
			85						90					95	
His	Phe	Pro	Leu	Lys	Val	Trp	Gln	Thr	Gly	Ser	Gly	Thr	Gln	Ser	Asn
			100					105					110		
Met	Asn	Val	Asn	Glu	Val	Ile	Ala	Asn	Leu	Ala	Ile	Arg	His	His	Gly
		115					120					125			
Gly	Val	Leu	Gly	Ser	Lys	Asp	Pro	Ile	His	Pro	Asn	Asp	His	Val	Asn
	130				135						140				
Lys	Ser	Gln	Ser	Ser	Asn	Asp	Val	Phe	Pro	Thr	Ala	Met	His	Ile	Ala
145					150					155				160	
Ala	Val	Ile	Ser	Leu	Lys	Asn	Lys	Leu	Ile	Pro	Ala	Leu	Asp	His	Met
			165						170					175	
Ile	Arg	Val	Leu	Asp	Ala	Lys	Val	Glu	Glu	Phe	Arg	His	Asp	Val	Lys
		180						185					190		
Ile	Gly	Arg	Thr	His	Leu	Met	Asp	Ala	Val	Pro	Met	Thr	Leu	Gly	Gln
		195					200					205			
Glu	Phe	Ser	Gly	Tyr	Ser	Ser	Gln	Leu	Arg	His	Cys	Leu	Glu	Ser	Ile
	210					215					220				
Ala	Phe	Ser	Leu	Ala	His	Leu	Tyr	Glu	Leu	Ala	Ile	Gly	Ala	Thr	Ala
225					230					235				240	
Val	Gly	Thr	Gly	Leu	Asn	Val	Pro	Glu	Gly	Phe	Val	Glu	Lys	Ile	Ile
			245						250					255	
His	Tyr	Leu	Arg	Lys	Glu	Thr	Asp	Glu	Pro	Phe	Ile	Pro	Ala	Ser	Asn
		260						265					270		
Tyr	Phe	Ser	Ala	Leu	Ser	Cys	His	Asp	Ala	Leu	Val	Asp	Ala	His	Gly
	275						280					285			
Ser	Leu	Ala	Thr	Leu	Ala	Cys	Ala	Leu	Thr	Lys	Ile	Ala	Thr	Asp	Leu
	290					295					300				
Ser	Phe	Leu	Gly	Ser	Gly	Pro	Arg	Cys	Gly	Leu	Gly	Glu	Leu	Phe	Phe
305					310					315				320	
Pro	Glu	Asn	Glu	Pro	Gly	Ser	Ser	Ile	Met	Pro	Gly	Lys	Val	Asn	Pro
			325						330					335	
Thr	Gln	Cys	Glu	Ala	Leu	Gln	Met	Val	Cys	Ala	Gln	Val	Leu	Gly	Asn
			340					345					350		
Asn	Gln	Thr	Val	Ile	Ile	Gly	Gly	Ser	Arg	Gly	Asn	Phe	Glu	Leu	Asn
		355					360					365			
Val	Met	Lys	Pro	Val	Ile	Ile	Tyr	Asn	Phe	Leu	Gln	Ser	Val	Asp	Leu
	370					375					380				
Leu	Ser	Glu	Gly	Met	Arg	Ala	Phe	Ser	Glu	Phe	Phe	Val	Lys	Gly	Leu
385					390					395				400	
Lys	Val	Asn	Lys	Ala	Arg	Leu	Gln	Asp	Asn	Ile	Asn	Asn	Ser	Leu	Met
			405						410					415	
Leu	Val	Thr	Ala	Leu	Ala	Pro	Val	Leu	Gly	Tyr	Asp	Lys	Cys	Ser	Lys
			420					425					430		
Ala	Ala	Leu	Lys	Ala	Phe	His	Glu	Ser	Ile	Ser	Leu	Lys	Glu	Ala	Cys
		435					440						445		

Leu Ala Leu Gly Tyr Leu Ser Glu Lys Glu Phe Asp Arg Leu Val Val
 450 455 460
 Pro Glu Asn Met Val Gly Asn His
 465 470

<210> 1015
 <211> 575
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1014

<400> 1015
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 Phe Lys Asn Phe Ile Pro Lys Leu Tyr Thr Ser Ile Lys Glu Gly Tyr
 20 25 30
 Ser Phe Asn Thr Phe Lys Lys Asp Phe Gln Ala Gly Ile Thr Val Gly
 35 40 45
 Ile Leu Ala Phe Pro Phe Ala Ile Ala Ile Ala Ile Gly Val Gly Val
 50 55 60
 Ser Pro Ile Gln Gly Leu Leu Ala Ser Ile Ile Gly Gly Leu Leu Ala
 65 70 75 80
 Ser Ala Met Gly Gly Ser Asn Val Leu Ile Ser Gly Pro Ser Ser Ala
 85 90 95
 Phe Ile Ser Ile Leu Tyr Cys Leu Ser Ala Lys Tyr Gly Ala Glu Ala
 100 105 110
 Leu Phe Thr Val Thr Leu Leu Ala Gly Val Phe Leu Ile Ala Phe Gly
 115 120 125
 Leu Thr Gly Leu Gly Thr Phe Ile Lys Tyr Met Pro Tyr Pro Val Val
 130 135 140
 Thr Gly Leu Thr Thr Gly Leu Ala Ile Ile Ile Phe Ser Ser Gln Ile
 145 150 155 160
 Lys Asp Phe Leu Gly Leu Gln Met Gly Ala Asn Ile Pro Ala Asp Phe
 165 170 175
 Leu Pro Lys Trp Ile Ala Tyr Trp Asp His Leu Trp Thr Trp Asp Ser
 180 185 190
 Lys Ser Phe Ala Val Gly Leu Phe Thr Leu Leu Ile Met Ile Tyr Phe
 195 200 205
 Arg Asn Tyr Lys Pro Arg Tyr Pro Gly Val Met Ile Ala Ile Val Thr
 210 215 220
 Ala Thr Thr Leu Val Trp Leu Leu Lys Ile Asp Ile Pro Thr Ile Gly
 225 230 235 240
 Ser Arg Tyr Gly Thr Leu Pro Thr Ala Ile Pro Leu Pro Lys Ile Pro
 245 250 255
 Gln Leu Ser Ile Thr Lys Ile Leu Gln Leu Met Pro Asp Ala Leu Thr
 260 265 270
 Ile Ala Val Leu Ser Gly Leu Glu Thr Leu Leu Ser Ala Val Val Ala
 275 280 285
 Asp Gly Met Thr Gly Trp Arg His Gln Ser Asn Cys Gln Leu Val Ala
 290 295 300
 Gln Gly Val Ala Asn Ile Gly Thr Ser Leu Phe Ser Gly Ile Pro Val
 305 310 315 320
 Thr Gly Ser Leu Ser Arg Thr Ala Ala Ser Ile Lys Ser Glu Ala Thr
 325 330 335
 Thr Pro Ile Ala Gly Ile Val His Ser Ile Phe Ile Cys Phe Ile Leu
 340 345 350
 Leu Leu Leu Ala Pro Leu Thr Val Lys Ile Pro Leu Thr Cys Leu Ala
 355 360 365

Ala	Val	Leu	Ile	Leu	Ile	Ala	Trp	Asn	Met	Ser	Glu	Ile	His	His	Phe
370						375					380				
Ile	His	Leu	Phe	Thr	Ala	Pro	Lys	Lys	Asp	Ile	Val	Val	Leu	Leu	Thr
385					390					395					400
Val	Phe	Ile	Leu	Thr	Val	Met	Thr	Thr	Ile	Thr	Ala	Ala	Val	Gln	Val
				405					410					415	
Gly	Met	Met	Leu	Ala	Ala	Phe	Leu	Phe	Met	Lys	Gln	Met	Ser	Asp	Leu
			420					425					430		
Ser	Asp	Val	Ile	Ser	Thr	Ala	Lys	Tyr	Phe	Asp	Lys	Asp	Ser	Asp	Phe
	435						440					445			
Leu	Ser	Lys	Ala	Glu	Val	Pro	Gln	Asn	Thr	Glu	Ile	Tyr	Glu	Ile	Asn
	450					455					460				
Gly	Pro	Phe	Phe	Phe	Gly	Ile	Ala	Asp	Arg	Leu	Lys	Asn	Leu	Leu	Asn
465					470					475					480
Asp	Ile	Glu	Lys	Pro	Pro	Lys	Ile	Phe	Ile	Leu	Cys	Met	Thr	Arg	Val
				485					490					495	
Pro	Thr	Ile	Asp	Ala	Ser	Ala	Met	His	Ala	Leu	Glu	Glu	Phe	Phe	Leu
			500					505					510		
Glu	Cys	Asp	Arg	Gln	Gly	Thr	Leu	Leu	Leu	Leu	Ala	Gly	Val	Lys	Lys
		515					520					525			
Thr	Pro	Leu	Ala	Asp	Leu	Lys	Arg	Tyr	His	Leu	Asp	Glu	Leu	Ile	Gly
	530					535					540				
Val	Asp	His	Ile	Phe	Ser	Asn	Ile	Lys	Ser	Ala	Leu	Leu	Phe	Ala	Gln
545					550					555					560
Ala	Leu	Thr	Asn	Leu	Glu	Ser	Lys	Thr	Ser	Thr	Arg	His	Leu	Val	
			565						570					575	

<210> 1016

<211> 448

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1015

<400> 1016

Lys	Asn	Asn	Tyr	Lys	Asn	Phe	Ser	Phe	Phe	Thr	Ser	Val	Arg	Val	Arg
1				5					10					15	
Ser	Lys	Val	Asp	His	Glu	Ile	Ile	Leu	Glu	Val	Thr	Met	Leu	Lys	Leu
		20						25				30			
Gln	Leu	Cys	Ala	Leu	Phe	Leu	Phe	Gly	Tyr	Leu	Ala	Ile	Val	Phe	Glu
		35					40					45			
His	Ile	Val	Arg	Val	Asn	Lys	Ser	Ala	Ile	Ala	Leu	Ala	Met	Gly	Gly
	50					55				60					
Leu	Met	Trp	Leu	Val	Cys	Phe	Ser	His	Ile	Pro	Met	Ala	Asp	His	Met
65					70					75				80	
Ile	Leu	Val	Glu	Glu	Ile	Ala	Asp	Met	Ser	Gln	Val	Ile	Phe	Phe	Leu
			85					90					95		
Phe	Ser	Ala	Met	Ala	Ile	Val	Glu	Leu	Ile	Asp	Ala	His	Lys	Gly	Phe
		100						105					110		
Ser	Val	Ile	Val	Lys	Phe	Cys	Arg	Ile	Gln	Ser	Arg	Thr	Leu	Leu	Leu
		115					120				125				
Trp	Ala	Leu	Ile	Gly	Leu	Ser	Phe	Phe	Leu	Ser	Ala	Ala	Leu	Asp	Asn
	130					135					140				
Leu	Thr	Ser	Ile	Ile	Ile	Ile	Ile	Ser	Ile	Leu	Lys	Arg	Leu	Val	Lys
145					150					155					160
Ala	Arg	Glu	Asp	Arg	Leu	Leu	Leu	Gly	Ala	Ile	Cys	Val	Ile	Ala	Val
			165						170					175	
Asn	Ala	Gly	Gly	Ala	Trp	Thr	Pro	Leu	Gly	Asp	Val	Thr	Thr	Thr	Met
		180						185						190	

Leu	Trp	Ile	Asn	Asn	Lys	Ile	Thr	Ser	Trp	Gly	Ile	Ile	Arg	Ala	Leu
		195					200					205			
Phe	Val	Pro	Ser	Leu	Val	Cys	Val	Leu	Val	Ala	Gly	Phe	Cys	Gly	Gln
	210					215					220				
Phe	Phe	Leu	Arg	Lys	Arg	Gly	Ser	Thr	Leu	Ile	Ala	Lys	Asp	Val	Glu
225					230					235					240
Leu	Gln	Ser	Ala	Pro	Pro	Lys	Ser	Leu	Trp	Ile	Ile	Phe	Ile	Gly	Leu
				245					250					255	
Gly	Ser	Leu	Leu	Met	Val	Pro	Val	Trp	Lys	Ala	Cys	Leu	Gly	Leu	Pro
			260					265					270		
Pro	Phe	Met	Gly	Ala	Leu	Leu	Gly	Leu	Gly	Leu	Val	Trp	Leu	Thr	Ser
		275					280					285			
Asp	Trp	Ile	His	Ser	Pro	His	Gly	Glu	Asp	Arg	Tyr	His	Leu	Arg	Val
	290					295					300				
Pro	His	Ile	Leu	Thr	Lys	Ile	Asp	Ile	Ser	Ser	Ile	Thr	Phe	Phe	Ile
305					310					315					320
Gly	Ile	Leu	Leu	Ala	Val	Asn	Ala	Leu	Ser	Phe	Ala	Asn	Leu	Leu	Thr
				325					330					335	
Asp	Phe	Ser	Leu	Trp	Met	Asp	Lys	Ile	Phe	Ser	Arg	Asn	Val	Val	Ala
			340					345					350		
Ile	Val	Ile	Gly	Leu	Leu	Ser	Ser	Val	Leu	Asp	Asn	Val	Pro	Leu	Val
		355					360					365			
Ala	Ala	Thr	Met	Gly	Met	Tyr	Thr	Leu	Pro	Leu	Asp	Asp	Thr	Leu	Trp
		370				375					380				
Lys	Leu	Ile	Ala	Tyr	Ala	Ala	Gly	Thr	Gly	Gly	Ser	Ile	Leu	Ile	Ile
385					390					395					400
Gly	Ser	Ala	Ala	Gly	Val	Ala	Phe	Met	Gly	Leu	Glu	Lys	Val	Asp	Phe
			405						410					415	
Leu	Trp	Tyr	Phe	Lys	Arg	Ile	Ser	Trp	Ile	Ala	Leu	Ala	Ser	Tyr	Phe
			420					425					430		
Gly	Gly	Leu	Phe	Ser	Tyr	Phe	Val	Leu	Glu	Ser	Leu	Asn	Phe	Phe	Ile
		435					440					445			

<210> 1017

<211> 624

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1016

<400> 1017

Lys	Arg	Glu	Val	Phe	Met	Lys	Lys	Gly	Lys	Leu	Gly	Ala	Ile	Val	Phe
1				5				10						15	
Gly	Leu	Leu	Phe	Thr	Ser	Ser	Val	Ala	Gly	Phe	Ser	Lys	Asp	Leu	Thr
			20					25					30		
Lys	Asp	Asn	Ala	Tyr	Gln	Asp	Leu	Asn	Val	Ile	Glu	His	Leu	Ile	Ser
		35				40						45			
Leu	Lys	Tyr	Ala	Pro	Leu	Pro	Trp	Lys	Glu	Leu	Leu	Phe	Gly	Trp	Asp
	50					55				60					
Leu	Ser	Gln	Gln	Thr	Gln	Gln	Ala	Arg	Leu	Gln	Leu	Val	Leu	Glu	Glu
65					70					75					80
Lys	Pro	Thr	Thr	Asn	Tyr	Cys	Gln	Lys	Val	Leu	Ser	Asn	Tyr	Val	Arg
				85					90					95	
Ser	Leu	Asn	Asp	Tyr	His	Ala	Gly	Ile	Thr	Phe	Tyr	Arg	Thr	Glu	Ser
			100					105					110		
Ala	Tyr	Ile	Pro	Tyr	Val	Leu	Lys	Leu	Ser	Glu	Asp	Gly	His	Val	Phe
		115					120					125			
Val	Val	Asp	Val	Gln	Thr	Ser	Gln	Gly	Asp	Ile	Tyr	Leu	Gly	Asp	Glu
		130					135					140			

Ile	Leu	Glu	Val	Asp	Gly	Met	Gly	Ile	Arg	Glu	Ala	Ile	Glu	Ser	Leu
145					150					155					160
Arg	Phe	Gly	Arg	Gly	Ser	Ala	Thr	Asp	Tyr	Ser	Ala	Ala	Val	Arg	Ser
				165					170					175	
Leu	Thr	Ser	Arg	Ser	Ala	Ala	Phe	Gly	Asp	Ala	Val	Pro	Ser	Gly	Ile
			180					185					190		
Ala	Met	Leu	Lys	Leu	Arg	Arg	Pro	Ser	Gly	Leu	Ile	Arg	Ser	Thr	Pro
		195					200					205			
Val	Arg	Trp	Arg	Tyr	Thr	Pro	Glu	His	Ile	Gly	Asp	Phe	Ser	Leu	Val
	210					215					220				
Ala	Pro	Leu	Ile	Pro	Glu	His	Lys	Pro	Gln	Leu	Pro	Thr	Gln	Ser	Cys
225					230					235					240
Val	Leu	Phe	Arg	Ser	Gly	Val	Asn	Ser	Gln	Ser	Ser	Ser	Ser	Ser	Leu
				245					250					255	
Phe	Ser	Ser	Tyr	Met	Val	Pro	Tyr	Phe	Trp	Glu	Glu	Leu	Arg	Val	Gln
			260					265					270		
Asn	Lys	Gln	Arg	Phe	Asp	Ser	Asn	His	His	Ile	Gly	Ser	Arg	Asn	Gly
	275						280					285			
Phe	Leu	Pro	Thr	Phe	Gly	Pro	Ile	Leu	Trp	Glu	Gln	Asp	Lys	Gly	Pro
	290					295					300				
Tyr	Arg	Ser	Tyr	Ile	Phe	Lys	Ala	Lys	Asp	Ser	Gln	Gly	Asn	Pro	His
305					310					315					320
Arg	Ile	Gly	Phe	Leu	Arg	Ile	Ser	Ser	Tyr	Val	Trp	Thr	Asp	Leu	Glu
				325					330					335	
Gly	Leu	Glu	Glu	Asp	His	Lys	Asp	Ser	Pro	Trp	Glu	Leu	Phe	Gly	Glu
			340					345					350		
Ile	Ile	Asp	His	Leu	Glu	Lys	Glu	Thr	Asp	Ala	Leu	Ile	Ile	Asp	Gln
		355					360					365			
Thr	His	Asn	Pro	Gly	Gly	Ser	Val	Phe	Tyr	Leu	Tyr	Ser	Leu	Leu	Ser
	370					375					380				
Met	Leu	Thr	Asp	His	Pro	Leu	Asp	Thr	Pro	Lys	His	Arg	Met	Ile	Phe
385					390					395					400
Thr	Gln	Asp	Glu	Val	Ser	Ser	Ala	Leu	His	Trp	Gln	Asp	Leu	Leu	Glu
				405					410					415	
Asp	Val	Phe	Thr	Asp	Glu	Gln	Ala	Val	Ala	Val	Leu	Gly	Glu	Thr	Met
			420					425					430		
Glu	Gly	Tyr	Cys	Met	Asp	Met	His	Ala	Val	Ala	Ser	Leu	Gln	Asn	Phe
		435					440				445				
Ser	Gln	Ser	Val	Leu	Ser	Ser	Trp	Val	Ser	Gly	Asp	Ile	Asn	Leu	Ser
	450					455				460					
Lys	Pro	Met	Pro	Leu	Leu	Gly	Phe	Ala	Gln	Val	Arg	Pro	His	Pro	Lys
465					470					475					480
His	Gln	Tyr	Thr	Lys	Pro	Leu	Phe	Met	Leu	Ile	Asp	Glu	Asp	Asp	Phe
				485					490					495	
Ser	Cys	Gly	Asp	Leu	Ala	Pro	Ala	Ile	Leu	Lys	Asp	Asn	Gly	Arg	Ala
			500					505					510		
Thr	Leu	Ile	Gly	Lys	Pro	Thr	Ala	Gly	Ala	Gly	Gly	Phe	Val	Phe	Gln
		515					520					525			
Val	Thr	Phe	Pro	Asn	Arg	Ser	Gly	Ile	Lys	Gly	Leu	Ser	Leu	Thr	Gly
	530					535					540				
Ser	Leu	Ala	Val	Arg	Lys	Asp	Gly	Glu	Phe	Ile	Glu	Asn	Leu	Gly	Val
545					550					555					560
Ala	Pro	His	Ile	Asp	Leu	Gly	Phe	Thr	Ser	Arg	Asp	Leu	Gln	Thr	Ser
				565					570					575	
Arg	Phe	Thr	Asp	Tyr	Val	Glu	Ala	Val	Lys	Thr	Ile	Val	Leu	Thr	Ser
			580					585					590		
Leu	Ser	Glu	Asn	Ala	Lys	Lys	Ser	Glu	Glu	Gln	Thr	Ser	Pro	Gln	Glu
		595					600					605			
Thr	Pro	Glu	Val	Ile	Arg	Val	Ser	Tyr	Pro	Thr	Thr	Thr	Ser	Ala	Ser
	610					615						620			

<210> 1018
 <211> 313
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1017

<400> 1018
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 Ser Gly Val Val Arg Ala Ile Gln Val Val Glu Val Ala Leu Glu Lys
 20 25 30
 Trp Gly Ala Pro Ile Tyr Val Lys His Glu Ile Val His Asn Arg His
 35 40 45
 Val Val Asn Ala Leu Arg Ala Lys Gly Ala Ile Phe Val Glu Glu Leu
 50 55 60
 Val Asp Val Pro Glu Gly Glu Arg Val Ile Tyr Ser Ala His Gly Ile
 65 70 75 80
 Pro Pro Ser Val Arg Ala Glu Ala Lys Ala Arg Lys Leu Ile Asp Ile
 85 90 95
 Asp Ala Thr Cys Gly Leu Val Thr Lys Val His Ser Ala Ala Lys Leu
 100 105 110
 Tyr Ala Ser Lys Gly Tyr Lys Ile Ile Leu Ile Gly His Lys Lys His
 115 120 125
 Val Glu Val Ile Gly Ile Val Gly Glu Val Pro Glu His Ile Thr Val
 130 135 140
 Val Glu Lys Val Ala Asp Val Glu Ala Leu Pro Phe Ser Ser Asp Thr
 145 150 155 160
 Pro Leu Phe Tyr Ile Thr Gln Thr Thr Leu Ser Leu Asp Asp Val Gln
 165 170 175
 Glu Ile Ser Ser Ala Leu Leu Lys Arg Tyr Pro Ser Ile Ile Thr Leu
 180 185 190
 Pro Ser Ser Ser Ile Cys Tyr Ala Thr Thr Asn Arg Gln Lys Ala Leu
 195 200 205
 Arg Ser Val Leu Ser Arg Val Asn Tyr Val Tyr Val Val Gly Asp Val
 210 215 220
 Asn Ser Ser Asn Ser Asn Arg Leu Arg Glu Val Ala Leu Arg Arg Gly
 225 230 235 240
 Val Pro Ala Asp Leu Ile Asn Asn Pro Glu Asp Ile Asp Thr Asn Ile
 245 250 255
 Val Asn His Ser Gly Asp Ile Ala Met Thr Ala Gly Ala Ser Thr Pro
 260 265 270
 Glu Asp Val Val Gln Ala Cys Ile Arg Lys Leu Ser Ser Leu Ile Pro
 275 280 285
 Gly Leu Gln Val Glu Asn Asp Ile Phe Ala Val Glu Asp Val Val Phe
 290 295 300
 Gln Leu Pro Lys Glu Leu Arg Cys Ser
 305 310

<210> 1019
 <211> 245
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1018

<400> 1019
 Arg Met Ser Tyr Phe Asn Tyr Gln Lys Asn Ser Val Val Leu Arg Ser
 1 5 10 15

Leu Gly Leu Leu Ala Lys Phe Phe Ser Arg Leu Leu Tyr Arg Val Phe
 20 25 30
 Phe Ser Phe Arg Glu Gly Ile Tyr Leu Phe Ser Ser Leu Tyr Leu Lys
 35 40 45
 Tyr Pro Arg Leu Phe Phe Tyr Asp Leu Gly Lys Tyr Val Tyr Ser Leu
 50 55 60
 Arg His Cys Pro Tyr Ala Lys Leu Gly Arg Leu Pro Gly Ala Ser Leu
 65 70 75 80
 Leu Lys Glu Gly Asn Val Tyr Gly Glu Thr Pro Trp Ser Val Leu Ala
 85 90 95
 Lys Ile Cys Gln Ala Phe Asp Ile Thr Ser Gln Asp Ile Leu Tyr Asp
 100 105 110
 Leu Gly Cys Gly Leu Gly Lys Val Cys Phe Trp Phe Ser His Val Val
 115 120 125
 Arg Cys Gln Val Ile Gly Ile Asp Asn Gln Pro His Phe Ile Arg Phe
 130 135 140
 Ser Ser Asn Met His Arg Lys Leu Ser Ser Gly Phe Ala Leu Phe Asp
 145 150 155 160
 Thr Glu Glu Phe Lys Asn Val Val Leu Ser Gln Ala Ser Tyr Val Tyr
 165 170 175
 Phe Tyr Gly Ser Ser Phe Ser Arg Arg Leu Leu Asn Glu Ile Ile Leu
 180 185 190
 Lys Leu Ser Glu Met Ala Pro Gly Ser Val Val Ile Ser Ile Ser Phe
 195 200 205
 Pro Leu Asp Ser Phe Ser Arg Gly Lys Glu Cys Phe Phe Thr Glu Lys
 210 215 220
 Ser Cys Ser Val Arg Phe Pro Trp Gly Lys Thr Ile Ala Tyr Lys Asn
 225 230 235 240
 Ile Arg Lys Gly Ser
 245

<210> 1020
 <211> 503
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1019

<400> 1020

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 Pro Pro Pro Glu Gly Glu Phe Asp Ile Phe Val Asp Gly Asn Ala Thr
 20 25 30
 Glu Glu Ala Val Val Ala Ala Glu Val Gln Val Ala Leu Pro Ala Gly
 35 40 45
 Glu Gln Tyr Ala Met Leu Arg Ala Thr Ser Glu Leu Cys Phe Gly Ile
 50 55 60
 Leu Thr Gln Ser Glu Cys Ala Leu Thr Gln Ala Leu Pro Pro Lys Glu
 65 70 75 80
 Lys Pro Leu Gln Glu Gln Phe Leu Val Lys Asn Gly Ile Leu Met
 85 90 95
 Arg Ser Thr Ser Leu Pro Asn Leu Lys Pro Gly Gln Ser Gln Gln Thr
 100 105 110
 Ser Leu Ala Ser His Arg Asn Pro Leu Ala Gln Gln Ser Thr Ser Ser
 115 120 125
 Asn Ser Thr Gly Lys Ala Ser Thr Glu Thr Thr Ser Ser Ser Phe Pro
 130 135 140
 Phe Phe Ser Cys Lys Ala Pro Glu Gly Asp Ser Ser Val Asp Lys Thr
 145 150 155 160

Phe Thr Val Ser Val Gln Thr Pro Lys Ala Gln Glu Gln Gln Glu Ala
 165 170 175
 Ser Ala Ser Gln Ser Gln Ala Gln Phe His Val Arg Ser Tyr Ser Ser
 180 185 190
 Ser Thr Ile Lys Glu His Ser Ala Lys Glu Lys Val Ser Gln Ser Thr
 195 200 205
 Lys Ser Ala Glu Thr Gln Lys His Thr Gln Thr Lys Ser Asp Ala Thr
 210 215 220
 Leu Ser Pro Met Ser Leu Tyr Ser Thr Leu His Lys Glu Val Pro Gln
 225 230 235 240
 Ala Leu Ser Ser Thr Lys Ser Gln Gln Lys Asp Glu Glu His Arg Asp
 245 250 255
 Gln Arg Gln Gln Glu Gly Tyr Glu Gln Glu Gln Glu Gln Glu Gly
 260 265 270
 Lys Lys Lys Thr Pro Trp Cys Thr Val Glu Ser Leu Gln Gln Thr Ser
 275 280 285
 Ser Ser Asn Gln Val Tyr Glu Ser Tyr Thr Pro Ile Ile Pro Asp Pro
 290 295 300
 Ile Val Glu Phe Ala Leu Ser Glu Ser Gln Leu Ser Val Leu Ala Gly
 305 310 315 320
 Lys Arg Val Thr Asn Leu Asp Val Leu Arg Ile Cys Thr Glu Leu Met
 325 330 335
 Lys Leu Met Leu Lys Ser Arg Ala Asn Asp Thr Met Thr Arg Leu Glu
 340 345 350
 Glu Arg Glu Leu Met Glu Arg Glu Ala His Glu Leu Ala Ala Ser Tyr
 355 360 365
 Ser Arg Gln Ala Lys Tyr Ala Arg Trp Leu Gly Ile Ala Thr Ala Thr
 370 375 380
 Leu Gly Ile Leu Gly Ala Ile Ala Pro Met Val Gly Glu Ile Ser Gly
 385 390 395 400
 Asp Ser Ile Leu Gly Phe Val Gln Arg Ile Ser Gly Arg Phe Lys Asp
 405 410 415
 Ala Thr Ala Lys Thr Phe Phe Lys Gly Ile Gly Lys Val Phe Thr Ser
 420 425 430
 Leu Ser Gln Leu Thr Glu Ala Ala Ser Lys Val His Glu Leu Ser Glu
 435 440 445
 Ser Ala Val Arg Ala Val Ala Glu Tyr Arg Lys Glu Val Phe Arg Met
 450 455 460
 Arg Gln Asp Glu Val Thr Arg Thr Ile Glu Glu Val Lys Asp Asn Trp
 465 470 475 480
 Lys Ser Met Asp Asn Phe Leu Leu Asn Ile Leu Gln Thr Glu His Asp
 485 490 495
 Ala Ala Arg Ser Leu Tyr Gln
 500

<210> 1021

<211> 515

<212> PRT

<213> *Chlamydia pneumoniae*

<220>

<223> CPn1020

<400> 1021

Cys Gly Asn Ser Thr Met Ser Ser Trp Leu Ser Gln Ala Ser Glu Val
 1 5 10 15
 Leu Leu Asn Gln Asp Pro Tyr Ile Pro Asp Ala Pro Arg Ser Gln Glu
 20 25 30
 Ser Ser Val Pro Lys Ile Ser Tyr Ser Ile Thr Val Ala Pro Gln Glu
 35 40 45

1273

<210> 1022
 <211> 191
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1021

<400> 1022
 Cys Ile Glu Val Ile Glu Arg Thr Tyr Gly His Leu His Leu Gln Pro
 1 5 10 15
 Thr Pro Leu Met Ser His Leu Asn Tyr Leu Leu Glu Lys Ile Ala Ala
 20 25 30
 Ser Ser Lys Glu Asp Phe Pro Phe Pro Asp Asp Leu Glu Ser Tyr Leu
 35 40 45
 Glu Gly Tyr Val Pro Asp Lys Asn Ile Ala Leu Asp Thr Tyr Gln Lys
 50 55 60
 Ile Phe Lys Ile Ser Ser Glu Asp Leu Glu Lys Val Tyr Lys Glu Gly
 65 70 75 80
 Tyr His Ala Tyr Leu Asp Lys Asp Tyr Ala Lys Ser Ile Thr Val Phe
 85 90 95
 Arg Trp Leu Val Phe Phe Asn Pro Phe Val Ser Lys Phe Trp Phe Ser
 100 105 110
 Leu Gly Ala Ser Leu His Met Ser Glu Gln Tyr Ser Gln Ala Leu His
 115 120 125
 Ala Tyr Gly Val Thr Ala Val Leu Arg Asp Lys Asp Pro Tyr Pro His
 130 135 140
 Tyr Tyr Ala Tyr Ile Cys Tyr Thr Leu Thr Asn Glu His Glu Glu Ala
 145 150 155 160
 Glu Lys Ala Leu Glu Met Ala Trp Val Arg Ala Gln His Lys Pro Leu
 165 170 175
 Tyr Asn Glu Leu Lys Glu Glu Ile Leu Asp Ile Arg Lys His Lys
 180 185 190

<210> 1023
 <211> 498
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1022

<400> 1023
 Phe Ser Phe Phe Phe Tyr Ala Leu Lys Leu Gln Ile Met Asn Met Pro
 1 5 10 15
 Val Pro Ser Ala Val Pro Ser Ala Asn Ile Thr Leu Lys Glu Asp Ser
 20 25 30
 Ser Thr Val Ser Thr Ala Ser Gly Ile Leu Lys Thr Ala Thr Gly Glu
 35 40 45
 Val Leu Val Ser Cys Thr Ala Leu Glu Gly Ser Ser Ser Thr Asp Ala
 50 55 60
 Leu Ile Ser Leu Ala Leu Gly Gln Ile Ile Leu Ala Thr Gln Gln Glu
 65 70 75 80
 Leu Leu Leu Gln Ser Thr Asn Val His Gln Leu Leu Phe Leu Pro Pro
 85 90 95
 Glu Val Val Glu Leu Glu Ile Gln Val Val Asp Leu Leu Val Gln Leu
 100 105 110
 Glu His Ala Glu Thr Ile Thr Ser Glu Pro Gln Glu Thr Gln Thr Gln
 115 120 125
 Ser Arg Ser Glu Gln Thr Leu Pro Gln Gln Ser Ser Ser Lys Gln Ser
 130 135 140

Ala	Leu	Ser	Pro	Arg	Ser	Leu	Lys	Pro	Glu	Ile	Ser	Asp	Ser	Lys	Gln
145					150					155					160
Gln	Gln	Ala	Leu	Gln	Thr	Pro	Lys	Asp	Ser	Ala	Val	Arg	Lys	His	Ser
				165					170					175	
Glu	Ala	Pro	Ser	Pro	Glu	Thr	Gln	Ala	Arg	Ala	Ser	Leu	Ser	Gln	Ala
			180					185					190		
Ser	Ser	Ser	Ser	Gln	Arg	Ser	Leu	Pro	Pro	Gln	Glu	Ser	Ala	Pro	Glu
		195					200					205			
Arg	Thr	Leu	Leu	Glu	Gln	Gln	Lys	Ala	Ser	Ser	Phe	Ser	Pro	Leu	Ser
	210					215					220				
Gln	Phe	Ser	Ala	Glu	Lys	Gln	Lys	Glu	Ala	Leu	Thr	Thr	Ser	Lys	Ser
225					230					235					240
His	Glu	Leu	Tyr	Lys	Glu	Arg	Asp	Gln	Asp	Arg	Gln	Gln	Arg	Glu	Gln
				245					250					255	
His	Asp	Arg	Lys	His	Asp	Gln	Glu	Glu	Asp	Ala	Glu	Ser	Lys	Lys	Lys
			260					265					270		
Lys	Lys	Lys	Arg	Gly	Leu	Gly	Val	Glu	Ala	Val	Ala	Glu	Glu	Pro	Gly
		275					280					285			
Glu	Asn	Leu	Asp	Ile	Ala	Ala	Leu	Ile	Phe	Ser	Asp	Gln	Met	Arg	Pro
	290					295					300				
Pro	Ala	Glu	Glu	Thr	Ser	Lys	Lys	Glu	Thr	Thr	Phe	Lys	Lys	Lys	Leu
305					310						315				320
Pro	Ser	Pro	Met	Ser	Val	Phe	Ser	Arg	Phe	Ile	Pro	Ser	Lys	Asn	Pro
				325					330					335	
Leu	Ser	Val	Gly	Ser	Ser	Ile	His	Gly	Pro	Ile	Gln	Thr	Pro	Lys	Val
			340					345					350		
Glu	Asn	Val	Phe	Leu	Arg	Phe	Met	Lys	Leu	Met	Ala	Arg	Ile	Leu	Gly
	355					360					365				
Gln	Ala	Glu	Ala	Glu	Ala	Asn	Glu	Leu	Tyr	Met	Arg	Val	Lys	Gln	Arg
	370					375					380				
Thr	Asp	Asp	Val	Asp	Thr	Leu	Thr	Val	Leu	Ile	Ser	Lys	Ile	Asn	Asn
385					390					395					400
Glu	Lys	Lys	Asp	Ile	Asp	Trp	Ser	Glu	Asn	Glu	Glu	Met	Lys	Ala	Leu
			405					410						415	
Leu	Asn	Arg	Ala	Lys	Glu	Ile	Gly	Val	Thr	Ile	Asp	Lys	Glu	Lys	Tyr
			420					425					430		
Thr	Trp	Thr	Glu	Glu	Glu	Lys	Arg	Leu	Leu	Lys	Glu	Asn	Val	Gln	Met
		435				440						445			
Arg	Lys	Glu	Asn	Met	Glu	Lys	Ile	Thr	Gln	Met	Glu	Arg	Thr	Asp	Met
	450					455					460				
Gln	Arg	His	Leu	Gln	Glu	Ile	Ser	Gln	Cys	His	Gln	Ala	Arg	Ser	Asn
465					470					475					480
Val	Leu	Lys	Leu	Leu	Lys	Glu	Leu	Met	Asp	Thr	Phe	Ile	Tyr	Asn	Leu
			485						490					495	
Arg	Pro														

<210> 1024
 <211> 108
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1023

<400> 1024
 Gly Leu Asp Phe Leu Glu Ile Phe Ile Met Lys Lys Val Val Thr Leu
 1 5 10 15
 Ser Ile Ile Phe Phe Ala Thr Tyr Cys Ala Ser Glu Leu Ser Ala Val
 20 25 30

Thr	Val	Val	Ala	Val	Pro	Leu	Ser	Glu	Ala	Pro	Gly	Lys	Ile	Gln	Val
		35					40					45			
Arg	Pro	Val	Val	Gly	Leu	Gln	Phe	Gln	Glu	Glu	Gln	Gly	Ser	Val	Pro
	50					55					60				
Tyr	Ser	Phe	Tyr	Tyr	Pro	Tyr	Asp	Tyr	Gly	Tyr	Tyr	Tyr	Pro	Glu	Thr
65					70					75					80
Tyr	Gly	Tyr	Thr	Lys	Asn	Thr	Gly	Gln	Glu	Ser	Arg	Glu	Cys	Tyr	Thr
				85					90					95	
Arg	Phe	Glu	Asp	Gly	Thr	Ile	Phe	Tyr	Glu	Cys	Asp				
			100					105							

<210> 1025
 <211> 328
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1024

<400> 1025

Ile	Phe	Phe	Phe	Pro	Trp	Phe	Ser	Leu	Cys	Ser	Leu	Lys	Ile	Ala	Pro
1				5					10					15	
Leu	Pro	Ile	Leu	Lys	Leu	His	Ser	Leu	Ala	Ser	Met	Thr	Met	Pro	Ser
			20					25				30			
Thr	Gln	Phe	His	Thr	Thr	Ile	Leu	Glu	Gln	Phe	Ser	Leu	Phe	Leu	Ser
		35					40					45			
Val	Asp	Arg	Gly	Leu	Cys	Gln	Gln	Ser	Ile	Ala	Ala	Tyr	Arg	Gln	Asp
	50					55					60				
Ile	Ser	Ser	Phe	Leu	Thr	Ile	Ser	Ala	Ile	Ser	Ser	Pro	Gln	Asp	Ile
65				70						75					80
Ser	Gln	Asn	Ser	Val	Tyr	Ile	Phe	Ala	Glu	Glu	Leu	Tyr	Arg	Arg	Lys
			85					90						95	
Glu	Ala	Glu	Thr	Thr	Leu	Ala	Arg	Arg	Leu	Ile	Ala	Leu	Lys	Val	Phe
			100				105						110		
Phe	Leu	Phe	Leu	Lys	Asp	Gln	Gln	Leu	Leu	Pro	Tyr	Pro	Pro	Ile	Ile
		115				120						125			
Glu	His	Pro	Lys	Ile	Trp	Lys	Arg	Leu	Pro	Ser	Val	Leu	Thr	Pro	Gln
	130					135					140				
Glu	Val	Asp	Ala	Leu	Leu	Ala	Val	Pro	Leu	Gln	Met	Glu	Lys	Asn	Pro
145				150						155					160
Arg	His	Leu	Ala	Phe	Arg	Asp	Thr	Ala	Ile	Leu	His	Thr	Leu	Tyr	Ser
			165					170						175	
Thr	Gly	Val	Arg	Val	Ser	Glu	Leu	Cys	Asp	Leu	Arg	Leu	Gly	His	Val
		180					185						190		
Ser	Asp	Asp	Cys	Ile	Arg	Val	Thr	Gly	Lys	Gly	Ser	Lys	Thr	Arg	Leu
	195					200						205			
Val	Pro	Leu	Gly	Ser	Arg	Ala	Arg	Glu	Ala	Ile	Asp	Ala	Tyr	Leu	Cys
	210					215					220				
Pro	Phe	Arg	Asp	Gln	Tyr	Gln	Lys	Lys	Asn	Pro	His	Glu	Asp	His	Leu
225				230						235					240
Phe	Leu	Ser	Thr	Arg	Gly	His	Lys	Leu	Glu	Arg	Ser	Cys	Val	Trp	Arg
			245					250						255	
Arg	Ile	His	Asn	Tyr	Ala	Lys	Gln	Val	Thr	Ser	Lys	Pro	Val	Ser	Pro
			260				265						270		
His	Ser	Leu	Arg	His	Ala	Phe	Ala	Thr	His	Leu	Leu	Asp	Asn	Lys	Ala
	275					280						285			
Asp	Leu	Arg	Val	Ile	Gln	Glu	Met	Leu	Gly	His	Ala	Arg	Ile	Ala	Ser
	290				295					300					
Thr	Glu	Val	Tyr	Thr	His	Val	Ala	Ala	Asp	Ser	Leu	Ile	Glu	Lys	Phe
305					310					315					320

Leu Ala His His Pro Arg Asn Leu
325

<210> 1026
<211> 538
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn1025

<400> 1026
Gly Ala Glu Gln Phe Ser Ser Tyr Arg Glu Lys Thr Met Glu Arg Lys
1 5 10 15
Arg Phe Ile Asp Cys Asp Ser Thr Lys Ile Leu Gln Glu Leu Ala Leu
20 25 30
Asn Pro Leu Asp Leu Thr Ala Pro Gly Val Leu Ser Ala Glu Arg Ile
35 40 45
Lys Lys Phe Ser Leu Leu Gly Gly Phe Thr Phe Ser Phe Ala Thr
50 55 60
Glu Arg Leu Asp Asp Ala Ile Leu Ala Ala Leu Ile Ser Leu Ala Glu
65 70 75 80
Glu Arg Gly Leu His Glu Ser Met Leu Ala Met Gln Gln Gly Gln Val
85 90 95
Val Asn Tyr Ile Glu Gly Phe Pro Ser Glu Met Arg Pro Ala Leu His
100 105 110
Thr Ala Thr Arg Ala Trp Val Thr Asp Ser Ser Phe Thr Gly Glu Ala
115 120 125
Glu Asp Ile Ala Val Arg Ser Arg Val Glu Ala Gln Arg Leu Lys Asp
130 135 140
Phe Leu Thr Lys Val Arg Ser Gln Phe Thr Thr Ile Val Gln Ile Gly
145 150 155 160
Ile Gly Gly Ser Glu Leu Gly Pro Lys Ala Leu Tyr Arg Ala Leu Arg
165 170 175
Ala Tyr Cys Pro Thr Asp Lys His Val His Phe Ile Ser Asn Ile Asp
180 185 190
Pro Asp Asn Gly Ala Glu Val Leu Asp Thr Ile Asp Cys Ala Lys Ala
195 200 205
Leu Val Val Val Val Ser Lys Ser Gly Thr Thr Ile Glu Thr Ala Val
210 215 220
Asn Glu Ala Phe Phe Ala Asp Tyr Phe Ala Lys Lys Gly Leu Ser Phe
225 230 235 240
Lys Asp His Phe Ile Ala Val Thr Cys Glu Gly Ser Pro Met Asp Asp
245 250 255
Thr Gly Lys Tyr Leu Glu Val Phe His Leu Trp Glu Ser Ile Gly Gly
260 265 270
Arg Phe Ser Ser Thr Ser Met Val Gly Gly Val Val Leu Gly Phe Ala
275 280 285
Tyr Gly Phe Glu Val Phe Leu Gln Leu Leu Gln Gly Ala Ser Ala Met
290 295 300
Asp Gln Ile Ala Leu Gln Pro Asn Ala Arg Glu Asn Leu Pro Met Leu
305 310 315 320
Ser Ala Leu Ile Ser Ile Trp Asn Arg Asn Phe Leu Gly Tyr Pro Thr
325 330 335
Glu Ala Val Ile Pro Tyr Ser Ser Gly Leu Glu Phe Phe Pro Ala His
340 345 350
Leu Gln Gln Cys Cys Met Glu Ser Asn Gly Lys Ser Ile Ala Gln Asp
355 360 365
Gly Arg Arg Val Gly Phe Ser Thr Ser Pro Val Ile Trp Gly Glu Pro
370 375 380

Gly Thr Asn Gly Gln His Ser Phe Phe Gln Cys Leu His Gln Gly Thr
 385 390 395 400
 Asp Ile Ile Pro Val Glu Phe Ile Gly Phe Glu Lys Ser Gln Lys Gly
 405 410 415
 Glu Asp Ile Ser Phe Gln Gly Thr Thr Ser Ser Gln Lys Leu Phe Ala
 420 425 430
 Asn Met Ile Ala Gln Ala Ile Ala Leu Ala Cys Gly Ser Glu Asn Thr
 435 440 445
 Asn Pro Asn Lys Asn Phe Asp Gly Asn Arg Pro Ser Ser Val Leu Val
 450 455 460
 Ser Ser Gln Leu Asn Pro Tyr Ser Leu Gly Glu Leu Leu Ser Tyr Tyr
 465 470 475 480
 Glu Asn Lys Ile Val Phe Gln Gly Leu Cys Trp Gly Ile Asn Ser Phe
 485 490 495
 Asp Gln Glu Gly Val Ser Leu Gly Lys Ala Leu Ala Asn Arg Val Leu
 500 505 510
 Glu Leu Leu Glu Gly Ala Asp Ala Ser Asn Phe Pro Glu Ala Ala Ser
 515 520 525
 Leu Leu Thr Leu Phe Asn Ile Lys Phe Arg
 530 535

<210> 1027
 <211> 59
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1026

<400> 1027

Cys Ser Phe Gly Phe Gly Lys Ile Cys Glu Asp Arg Met Phe Phe Ile
 1 5 10 15
 Ala Val Arg Ser Arg Gly Phe Leu Asp Ile His Gly Ile Leu Ala Ala
 20 25 30
 Arg Lys Gly Lys Gln Val Val Lys Ser Thr Ala Gly Ala Trp Ile Gly
 35 40 45
 Ser Arg Gly Ala Val Phe Tyr Ser Leu Val Ser
 50 55

<210> 1028
 <211> 528
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1027

<400> 1028

Asn Met Pro Gly Ser Val Ser Ser Pro Pro Leu Ser Pro Val Ile Val
 1 5 10 15
 Arg Glu Arg Val Pro Ser Ser Ser Gly Ser Asp Leu Ile Gln Pro His
 20 25 30
 Ala Val Leu Lys Ile Ser Ile Leu Ile Phe Ala Leu Val Thr Ile Leu
 35 40 45
 Gly Ile Val Leu Val Val Leu Ser Ser Ala Leu Gly Ala Leu Pro Ser
 50 55 60
 Leu Val Leu Thr Val Ser Gly Cys Ile Ala Ile Ala Val Gly Leu Ile
 65 70 75 80
 Gly Leu Gly Ile Leu Val Thr Arg Leu Ile Leu Ser Thr Ile Arg Lys
 85 90 95

<220>

<223> CPn1028

<400> 1029

Phe	Phe	Leu	Lys	Gly	Val	Arg	Met	Ala	Phe	Lys	Glu	Val	Val	Arg	Val
1				5					10					15	
Ala	Val	Thr	Gly	Gly	Lys	Gly	Gln	Ile	Ala	Tyr	Asn	Phe	Leu	Phe	Ala
			20				25						30		
Leu	Ala	His	Gly	Asp	Val	Phe	Gly	Val	Asp	Arg	Gly	Val	Asp	Leu	Arg
		35					40					45			
Ile	Tyr	Asp	Val	Pro	Gly	Thr	Glu	Arg	Ala	Leu	Ser	Gly	Val	Arg	Met
	50					55					60				
Glu	Leu	Asp	Asp	Gly	Ala	Tyr	Pro	Leu	Leu	His	Arg	Leu	Arg	Val	Thr
65					70					75				80	
Thr	Ser	Leu	Asn	Asp	Ala	Phe	Asp	Gly	Ile	Asp	Ala	Ala	Phe	Leu	Ile
			85						90					95	
Gly	Ala	Val	Pro	Arg	Gly	Pro	Gly	Met	Glu	Arg	Gly	Asp	Leu	Leu	Lys
			100					105					110		
Gln	Asn	Gly	Gln	Ile	Phe	Ser	Leu	Gln	Gly	Ala	Ala	Leu	Asn	Thr	Ala
		115					120					125			
Ala	Lys	Arg	Asp	Ala	Lys	Ile	Phe	Val	Val	Gly	Asn	Pro	Val	Asn	Thr
	130					135					140				
Asn	Cys	Trp	Ile	Ala	Met	Lys	His	Ala	Pro	Arg	Leu	His	Arg	Lys	Asn
145					150					155				160	
Phe	His	Ala	Met	Leu	Arg	Leu	Asp	Gln	Asn	Arg	Met	His	Ser	Met	Leu
			165						170					175	
Ala	His	Arg	Ala	Glu	Val	Pro	Leu	Glu	Glu	Val	Ser	Arg	Val	Val	Ile
			180					185					190		
Trp	Gly	Asn	His	Ser	Ala	Lys	Gln	Val	Pro	Asp	Phe	Thr	Gln	Ala	Arg
		195					200					205			
Ile	Ser	Gly	Lys	Pro	Ala	Ala	Glu	Val	Ile	Gly	Asp	Arg	Asp	Trp	Leu
	210					215					220				
Glu	Asn	Ile	Leu	Val	His	Ser	Val	Gln	Asn	Arg	Gly	Ser	Ala	Val	Ile
225					230					235				240	
Glu	Ala	Arg	Gly	Lys	Ser	Ser	Ala	Ala	Ser	Ala	Ser	Arg	Ala	Leu	Ala
			245						250					255	
Glu	Ala	Ala	Arg	Ser	Ile	Phe	Cys	Pro	Lys	Ser	Asp	Glu	Trp	Phe	Ser
		260					265						270		
Ser	Gly	Val	Cys	Ser	Asp	His	Asn	Pro	Tyr	Gly	Ile	Pro	Glu	Asp	Leu
		275					280					285			
Ile	Phe	Gly	Phe	Pro	Cys	Arg	Met	Leu	Pro	Ser	Gly	Asp	Tyr	Glu	Ile
	290					295					300				
Ile	Pro	Gly	Leu	Pro	Trp	Glu	Pro	Phe	Ile	Arg	Asn	Lys	Ile	Gln	Ile
	305				310					315				320	
Ser	Leu	Asp	Glu	Ile	Ala	Gln	Glu	Lys	Ala	Ser	Val	Ser	Ser	Leu	
				325					330					335	

<210> 1030

<211> 286

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1029

<400> 1030

Arg	Val	Phe	Val	Ile	Ser	Thr	Met	Leu	Trp	Gly	Val	Ser	Met	Arg	Gln
1				5					10					15	
Ser	Phe	Asp	Glu	Leu	Ser	Gln	Asn	Ala	Phe	Lys	Asn	Ile	Phe	Asn	Lys
			20					25					30		

Gln Arg Phe Cys Phe Ile Phe Cys Ser Leu Cys Cys Phe Gly Phe Val
 35 40 45
 Phe Ala Leu Phe Leu Lys Leu Cys Ser Arg Leu Ala Pro Glu Ile Ser
 50 55 60
 Leu Ser Thr Leu Gly Leu Gly Ala Phe Phe Cys Ala Phe Ser Val Ile
 65 70 75 80
 Cys Ala Ser Ala Ile Ile Val Gln Phe Leu Leu His Lys Glu Ser Gln
 85 90 95
 Gly Glu Thr Ser Lys Leu Cys Cys Ala Ile Lys Asn Thr Trp Ser Ser
 100 105 110
 Leu Trp Leu Ser Leu Leu Val Ser Met Pro Phe Phe Ile Ala Met Val
 115 120 125
 Ala Val Val Thr Val Ala Met Leu Ser Ser Phe Leu Gly Ser Leu Pro
 130 135 140
 Trp Val Gly Lys Leu Phe His Thr Val Leu Ile Phe Ile Pro Tyr Leu
 145 150 155 160
 Ser Ala Thr Ala Leu Ile Leu Leu Phe Leu Gly Ser Phe Ser Cys Leu
 165 170 175
 Phe Phe Cys Ile Pro Val Leu His Asn Gln Glu Ser Ile Asp Tyr Arg
 180 185 190
 Lys Leu Leu Glu Cys Phe Arg Gly Asn Ile Leu Arg Gln Phe Ile Gly
 195 200 205
 Val Val Ile Ala Leu Val Pro Leu Ala Leu Cys Ser Trp Leu Ala Leu
 210 215 220
 Asp Ser Phe Tyr Leu Met Thr His Leu Val Glu Ile Ala Asp Ile His
 225 230 235 240
 Thr Trp Ser Phe Leu Ala Gln Met Phe Val Leu Ile Val Pro Ile Ala
 245 250 255
 Leu Ile Leu Thr Pro Ala Val Ser Phe Phe Phe Asn Phe Ser Phe Ser
 260 265 270
 Phe Tyr Leu Ala Lys Gln Glu Glu Glu Lys Ala Leu Val Lys
 275 280 285

<210> 1031

<211> 353

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1030

<400> 1031

Phe Lys Val His Phe Met Arg Ile Ala Val Leu Gly Ala Gly Tyr Ala
 1 5 10 15
 Gly Leu Ser Val Thr Trp His Leu Leu Leu His Ser Gln Gly Thr Ala
 20 25 30
 Thr Ile Asp Leu Phe Asp Pro Ile Pro Leu Gly Glu Gly Ala Ser Gly
 35 40 45
 Met Ser Ser Gly Leu Leu His Ala Phe Thr Gly Lys Lys Ala Leu Lys
 50 55 60
 Pro Pro Leu Ala Asp Gln Gly Ile Asn Ala Thr His Ala Leu Ile Thr
 65 70 75 80
 Glu Ala Ser Lys Ala Leu Asn Val Pro Ile Val Ile Ser Gln Gly Ile
 85 90 95
 Leu Arg Pro Ala Ile Asp Glu Asp Gln Ala Gln Leu Phe Thr Glu Arg
 100 105 110
 Val Glu Glu Phe Pro Lys Glu Val Glu Trp Trp Glu Lys Ala Arg Cys
 115 120 125
 Glu Ile Ser Ile Pro Ser Met Val Ile Pro Pro Asn Leu Gly Ala Leu
 130 135 140

Phe Ile Lys Ser Gly Val Thr Leu Asn Asn Asp Leu Tyr Ile Gln Gly
 145 150 155 160
 Leu Ala Asp Ala Cys Met Lys Leu Gly Thr Gln Phe Tyr Asp Glu Leu
 165 170 175
 Ile Glu Asp Leu Ala Asp Ile Glu Glu Phe Tyr Asp His Ile Ile Val
 180 185 190
 Thr Pro Gly Ala Asn Ala Ser Ile Leu Pro Glu Leu Lys Asp Met Pro
 195 200 205
 Val Asn Lys Val Lys Gly Gln Leu Leu Glu Ile Ser Trp Pro Lys Asp
 210 215 220
 Leu Ala Met Leu Ser Phe Ser Ile Asn Ala His Lys Tyr Met Val Ala
 225 230 235 240
 Asn Thr Gln Lys Asn Thr Cys Ile Leu Gly Ala Thr Phe Glu His Asn
 245 250 255
 Gln Pro Glu Glu Thr Pro Asp Pro Ala Ile Ala Tyr Gln Glu Ile Met
 260 265 270
 Pro Pro Val Leu Ser Leu Phe Pro Gly Leu Lys Asp Ala Gln Val Leu
 275 280 285
 His Cys Tyr Ala Gly Met Arg Ser Ser Ser Lys Ser Arg Leu Pro Val
 290 295 300
 Ile Ser Arg Ile Arg Glu Lys Leu Trp Phe Leu Gly Gly Leu Gly Ser
 305 310 315 320
 Lys Gly Leu Leu Tyr His Gly Ile Thr Gly Asp Met Leu Ala Gln Ala
 325 330 335
 Val Leu Arg Lys Ser Thr Ala Tyr Ile Ala Lys Glu Phe Leu Phe Thr
 340 345 350
 Ile

<210> 1032
 <211> 490
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1031

<400> 1032

Ile Lys Glu Thr Phe Met Thr Ser Arg Thr Lys Ser Ser Lys Asn Leu
 1 5 10 15
 Gly Thr Ile Ala Leu Ala Gly Met Val Val Ser Ser Ile Ile Gly Gly
 20 25 30
 Gly Ile Phe Ser Leu Pro Gln Asn Met Ala Ala Thr Ala Gly Ala Gly
 35 40 45
 Ala Val Ile Leu Ser Trp Ile Leu Thr Gly Phe Gly Met Phe Phe Ile
 50 55 60
 Ala Asn Thr Phe Arg Ile Leu Ser Thr Ile Arg Pro Asp Leu Lys Glu
 65 70 75 80
 Gly Ile Tyr Met Tyr Ser Arg Glu Gly Phe Gly Pro Tyr Ile Gly Phe
 85 90 95
 Thr Ile Gly Trp Gly Tyr Trp Leu Cys Gln Ile Phe Gly Asn Val Gly
 100 105 110
 Tyr Ala Val Ile Thr Met Asp Ala Leu Asn Tyr Phe Phe Pro Pro Tyr
 115 120 125
 Phe Gln Gly Gly Asn Thr Leu Pro Ala Ile Leu Gly Gly Ser Ile Leu
 130 135 140
 Ile Trp Val Phe Asn Phe Ile Val Leu Lys Gly Ile Arg Gln Ala Ser
 145 150 155 160
 Ile Ile Asn Val Ile Gly Thr Ile Phe Lys Ile Ile Pro Leu Ile Ile
 165 170 175

Phe	Ile	Ile	Leu	Thr	Ala	Phe	Phe	Phe	Lys	Leu	Ala	Val	Phe	Lys	Thr
			180					185					190		
Asp	Phe	Trp	Gly	His	Ala	Val	Thr	Lys	Ala	Gln	Pro	Ser	Leu	Gly	Ser
		195					200					205			
Val	Ser	Ser	Gln	Leu	Lys	Gly	Thr	Met	Leu	Val	Thr	Leu	Trp	Ala	Phe
	210					215					220				
Ile	Gly	Ile	Glu	Gly	Ala	Val	Val	Met	Ser	Gly	Arg	Ala	Lys	Asn	Pro
225					230					235					240
Leu	Ser	Val	Gly	Gln	Ala	Thr	Val	Leu	Gly	Phe	Leu	Gly	Cys	Leu	Thr
			245						250					255	
Ile	Tyr	Ile	Leu	Phe	Ser	Leu	Leu	Pro	Phe	Gly	Ser	Leu	Phe	Gln	His
		260						265					270		
Gln	Leu	Ala	Asn	Ile	Pro	Asn	Pro	Ser	Thr	Ala	Gly	Val	Leu	Asp	Ile
		275					280					285			
Leu	Val	Gly	Lys	Trp	Gly	Glu	Val	Leu	Met	Asn	Val	Gly	Leu	Ile	Ile
	290					295					300				
Ala	Val	Leu	Ser	Ser	Trp	Leu	Ser	Trp	Thr	Ile	Ile	Val	Ala	Glu	Ile
305					310					315					320
Pro	Phe	Ser	Ala	Ala	Lys	Asn	Gly	Thr	Phe	Pro	Glu	Ile	Phe	Thr	Ile
			325						330					335	
Glu	Asn	Lys	Glu	Lys	Ser	Pro	Ser	Val	Ser	Leu	Tyr	Ile	Thr	Ser	Ser
		340						345					350		
Val	Met	Gln	Leu	Ala	Met	Leu	Leu	Val	Tyr	Phe	Ser	Ser	Asn	Ala	Trp
		355					360					365			
Asn	Thr	Met	Leu	Ser	Ile	Thr	Gly	Val	Met	Val	Leu	Pro	Ala	Tyr	Leu
	370					375					380				
Ala	Ser	Ala	Ala	Phe	Leu	Phe	Lys	Leu	Ser	Lys	Ser	Lys	Thr	Tyr	Pro
385					390					395					400
Lys	Lys	Gly	Ser	Ile	Lys	Ala	Pro	Leu	Ala	Met	Ile	Thr	Gly	Ile	Leu
			405						410					415	
Gly	Val	Val	Tyr	Ser	Leu	Trp	Leu	Ile	Tyr	Ala	Gly	Gly	Leu	Lys	Tyr
		420					425						430		
Leu	Phe	Met	Ala	Leu	Val	Leu	Leu	Ala	Leu	Gly	Ile	Pro	Phe	Tyr	Ile
	435						440					445			
Asp	Ala	Gly	Lys	Lys	Lys	Lys	Asn	Ala	Lys	Thr	Phe	Phe	Ala	Lys	Lys
	450					455					460				
Glu	Ile	Val	Gly	Met	Thr	Phe	Ile	Gly	Leu	Leu	Ala	Leu	Thr	Ala	Ile
465					470					475					480
Phe	Leu	Phe	Leu	Thr	Gly	Arg	Ile	Lys	Ile						
			485						490						

<210> 1033
 <211> 196
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1032

<400> 1033

Leu	Met	Ala	Tyr	Gly	Thr	Arg	Tyr	Pro	Thr	Leu	Ala	Phe	His	Thr	Gly
1				5					10					15	
Gly	Ile	Gly	Glu	Ser	Asp	Asp	Gly	Met	Pro	Pro	Gln	Pro	Phe	Glu	Thr
		20					25					30			
Phe	Cys	Tyr	Asp	Ser	Ala	Leu	Leu	Gln	Ala	Lys	Ile	Glu	Asn	Phe	Asn
	35						40					45			
Ile	Val	Pro	Tyr	Thr	Ser	Val	Leu	Pro	Lys	Glu	Leu	Phe	Gly	Asn	Ile
	50					55				60					
Val	Pro	Val	Asp	Thr	Cys	Val	Lys	Ser	Phe	Lys	His	Gly	Ala	Val	Leu
65					70					75					80

Glu	Val	Ile	Met	Ala	Gly	Arg	Gly	Ala	Ala	Leu	Ser	Asp	Gly	Thr	His
			85						90					95	
Ala	Ile	Ala	Thr	Gly	Ile	Gly	Ile	Cys	Trp	Gly	Lys	Asp	Lys	Asn	Gly
			100					105					110		
Glu	Leu	Ile	Gly	Gly	Trp	Ala	Ala	Glu	Tyr	Val	Glu	Phe	Phe	Pro	Thr
		115					120					125			
Trp	Ile	Asn	Asp	Glu	Ile	Ala	Glu	Thr	His	Ala	Lys	Met	Trp	Leu	Lys
		130				135					140				
Lys	Ser	Leu	Gln	His	Glu	Leu	Asp	Leu	Arg	Ser	Ile	Ala	Lys	His	Ser
		145			150					155					160
Glu	Phe	Gln	Phe	Phe	His	Asn	Tyr	Ile	Asn	Ile	Lys	Gln	Lys	Phe	Gly
			165					170						175	
Phe	Cys	Leu	Thr	Ala	Leu	Gly	Phe	Leu	Asn	Phe	Glu	Asn	Ala	Glu	Pro
			180					185					190		
Ala	Lys	Val	Asn												
			195												

<210> 1034

<211> 490

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1033

<400> 1034

Asn	Asn	Lys	Lys	Asp	Tyr	Ser	Gly	Glu	Phe	Leu	Thr	Thr	Asp	Thr	
1			5					10					15		
Val	Asp	Ser	Ile	Ala	Phe	Leu	Pro	Ser	Glu	Glu	Asn	Phe	Cys	Tyr	Ile
			20					25					30		
Lys	Thr	Ile	Leu	Phe	Phe	Arg	Val	Lys	Lys	Lys	His	Tyr	Ala	Phe	Phe
		35				40						45			
Tyr	Gly	Glu	Phe	Met	Ile	Ser	Phe	Arg	Phe	Leu	Leu	Leu	Ser	Gly	Leu
	50				55					60					
Cys	Ala	Leu	Gly	Ile	Ser	Ser	Tyr	Ala	Glu	Thr	Pro	Lys	Glu	Thr	Thr
	65			70						75					80
Gly	His	Tyr	His	Arg	Tyr	Lys	Ala	Arg	Ile	Gln	Lys	Lys	His	Pro	Glu
			85					90						95	
Ser	Ile	Lys	Glu	Ser	Ala	Pro	Ser	Glu	Thr	Pro	His	His	Asn	Ser	Leu
			100					105					110		
Leu	Ser	Pro	Val	Thr	Asn	Ile	Phe	Cys	Ser	His	Pro	Trp	Lys	Asp	Gly
		115					120					125			
Ile	Ser	Val	Ser	Asn	Leu	Leu	Thr	Ser	Val	Glu	Lys	Ala	Thr	Asn	Thr
		130				135					140				
Gln	Ile	Ser	Leu	Asp	Phe	Ser	Ile	Leu	Pro	Gln	Trp	Phe	Tyr	Pro	His
	145			150						155					160
Lys	Ala	Leu	Gly	Gln	Thr	Gln	Ala	Leu	Glu	Ile	Pro	Ser	Trp	Gln	Phe
			165						170					175	
Tyr	Phe	Ser	Pro	Ser	Thr	Thr	Trp	Thr	Leu	Tyr	Asp	Ser	Pro	Thr	Ala
			180					185					190		
Gly	Gln	Gly	Ile	Val	Asp	Phe	Ser	Tyr	Thr	Leu	Ile	His	Tyr	Trp	Gln
		195					200					205			
Thr	Asn	Gly	Val	Asp	Ala	Asn	Gln	Ala	Ala	Gly	Thr	Ala	Ser	Ser	Met
	210					215					220				
Asn	Asp	Tyr	Ser	Asn	Arg	Glu	Asn	Asn	Leu	Ala	Gln	Leu	Thr	Phe	Ser
	225				230					235					240
Gln	Thr	Phe	Pro	Gly	Asp	Phe	Leu	Thr	Leu	Ala	Ile	Gly	Gln	Tyr	Ser
			245						250					255	
Leu	Tyr	Ala	Ile	Asp	Gly	Thr	Leu	Tyr	Asp	Asn	Asp	Gln	Tyr	Ser	Gly
			260					265					270		

Phe	Ile	Ser	Tyr	Ala	Leu	Ser	Gln	Asn	Ala	Ser	Ala	Thr	Tyr	Ser	Leu
		275					280					285			
Gly	Ser	Thr	Gly	Ala	Tyr	Leu	Gln	Phe	Thr	Pro	Asn	Ser	Glu	Ile	Lys
	290					295				300					
Val	Gln	Leu	Gly	Phe	Gln	Asp	Ser	Tyr	Asn	Ile	Asp	Gly	Thr	Asn	Phe
305					310					315					320
Ser	Ile	Tyr	Asn	Leu	Thr	Lys	Ser	Lys	Tyr	Asn	Phe	Tyr	Gly	Tyr	Ala
			325						330					335	
Ser	Trp	Thr	Pro	Lys	Pro	Ser	Cys	Gly	Asp	Gly	Gln	Tyr	Ser	Val	Leu
			340					345					350		
Leu	Tyr	Ser	Thr	Arg	Lys	Val	Pro	Glu	Gln	Asn	Ser	Gln	Val	Thr	Gly
		355					360					365			
Trp	Ser	Leu	Asn	Ala	Ala	Gln	His	Ile	His	Glu	Lys	Leu	Tyr	Leu	Phe
	370					375					380				
Gly	Arg	Ile	Asn	Gly	Ala	Thr	Gly	Thr	Ala	Leu	Pro	Ile	Asn	Arg	Ser
385					390					395					400
Tyr	Val	Leu	Gly	Leu	Val	Ser	Glu	Asn	Pro	Leu	Asn	Arg	His	Ser	Gln
			405						410					415	
Asp	Leu	Leu	Gly	Ile	Gly	Phe	Ala	Thr	Asn	Lys	Val	Asn	Ala	Lys	Ala
			420					425					430		
Ile	Ser	Asn	Val	Asn	Lys	Leu	Arg	Arg	Tyr	Glu	Ser	Val	Met	Glu	Ala
		435					440					445			
Phe	Ala	Thr	Ile	Gly	Phe	Gly	Pro	Tyr	Ile	Ser	Leu	Thr	Pro	Asp	Phe
	450					455					460				
Gln	Leu	Tyr	Ile	His	Pro	Ala	Leu	Arg	Pro	Glu	Arg	Arg	Thr	Ser	Gln
465					470					475					480
Val	Tyr	Gly	Leu	Arg	Ala	Asn	Leu	Ser	Leu						
			485						490						

<210> 1035

<211> 286

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1034

<400> 1035

Lys	Thr	Ser	Trp	Gln	Lys	Tyr	Lys	Lys	Tyr	Leu	Ser	Tyr	Ser	Ile	Leu
1				5					10					15	
Val	Gln	Lys	Ile	Ala	Arg	Tyr	Val	Met	Lys	Thr	Trp	Leu	Phe	Phe	Thr
			20					25					30		
Phe	Leu	Phe	Ser	Cys	Ser	Ser	Phe	Tyr	Ala	Ser	Cys	Arg	Tyr	Ala	Glu
		35					40					45			
Val	Arg	Ser	Ile	His	Glu	Val	Ala	Gly	Asp	Ile	Leu	Tyr	Asp	Glu	Glu
	50					55					60				
Asn	Phe	Trp	Leu	Ile	Leu	Asp	Leu	Asp	Asp	Thr	Leu	Leu	Gln	Gly	Gly
65					70					75				80	
Glu	Ala	Leu	Ser	His	Ser	Ile	Trp	Lys	Ser	Lys	Ala	Ile	Gln	Gly	Leu
			85						90					95	
Gln	Lys	Gln	Gly	Thr	Pro	Glu	Gln	Glu	Ala	Trp	Glu	Ala	Val	Val	Pro
			100					105					110		
Phe	Trp	Ile	Glu	Ile	Gln	Glu	Met	Gly	Thr	Val	Gln	Pro	Ile	Glu	Ser
		115					120					125			
Ala	Ile	Phe	Leu	Leu	Ile	Glu	Lys	Ile	Gln	Lys	Gln	Gly	Lys	Thr	Thr
	130					135					140				
Phe	Val	Tyr	Thr	Glu	Arg	Pro	Lys	Thr	Ala	Lys	Asp	Leu	Thr	Leu	Lys
145					150					155					160
Gln	Leu	His	Met	Leu	Asn	Val	Ser	Leu	Glu	Asp	Thr	Ala	Pro	Gln	Pro
			165						170					175	

Gln	Ala	Pro	Leu	Pro	Lys	Asn	Leu	Leu	Tyr	Thr	Ser	Gly	Ile	Leu	Phe
			180					185					190		
Ser	Gly	Asp	Tyr	His	Lys	Gly	Pro	Gly	Leu	Asp	Leu	Phe	Leu	Glu	Ile
		195					200					205			
Cys	Thr	Pro	Leu	Pro	Ala	Lys	Ile	Ile	Tyr	Ile	Asp	Asn	Gln	Lys	Glu
	210					215					220				
Asn	Val	Leu	Arg	Ile	Gly	Asp	Leu	Cys	Gln	Lys	Tyr	Gly	Ile	Ala	Tyr
	225				230					235					240
Phe	Gly	Ile	Thr	Tyr	Lys	Ala	Gln	Glu	Leu	His	Pro	Pro	Ile	Tyr	Phe
			245					250						255	
Asp	Asn	Ile	Ala	Gln	Val	Gln	Tyr	Asn	Tyr	Ser	Lys	Lys	Leu	Leu	Ser
			260					265					270		
Asn	Glu	Ala	Ala	Ala	Leu	Leu	Leu	Arg	His	Gln	Met	His	Glu		
		275					280					285			

<210> 1036

<211> 504

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1035

<400> 1036

Val	Val	Gln	Leu	Pro	Leu	Met	Val	Pro	Ile	Val	His	Leu	Gln	Ile	Trp
1			5					10					15		
Arg	Phe	Ser	Met	Ile	Tyr	Tyr	Gly	Val	Ser	Val	Met	Leu	Cys	Ala	Thr
			20					25				30			
Val	Ser	Gly	Pro	Ser	Phe	Cys	Glu	Ala	Lys	Gln	Gln	Ile	Leu	Lys	Ser
		35					40					45			
Leu	His	Leu	Val	Asp	Ile	Ile	Glu	Leu	Arg	Leu	Asp	Leu	Ile	Asn	Glu
	50					55					60				
Leu	Asp	Asp	Gln	Glu	Leu	His	Thr	Leu	Ile	Thr	Thr	Ala	Gln	Asn	Pro
	65				70					75				80	
Ile	Leu	Thr	Phe	Arg	Gln	His	Lys	Glu	Met	Ser	Thr	Ala	Leu	Trp	Ile
			85					90					95		
Gln	Lys	Leu	Tyr	Ser	Leu	Ala	Lys	Leu	Glu	Pro	Lys	Trp	Met	Asp	Ile
			100					105					110		
Asp	Val	Ser	Leu	Pro	Lys	Thr	Ala	Leu	Gln	Thr	Ile	Arg	Lys	Ser	His
		115					120					125			
Pro	Lys	Ile	Lys	Leu	Ile	Leu	Ser	Tyr	His	Thr	Asp	Lys	Asn	Glu	Asp
	130					135					140				
Leu	Asp	Ala	Ile	Tyr	Asn	Glu	Met	Leu	Ala	Thr	Pro	Ala	Glu	Ile	Tyr
	145				150					155				160	
Lys	Ile	Val	Leu	Ser	Pro	Glu	Asn	Ser	Ser	Glu	Ala	Leu	Asn	Tyr	Ile
			165					170					175		
Lys	Lys	Ala	Arg	Leu	Leu	Pro	Lys	Pro	Ser	Thr	Val	Leu	Cys	Met	Gly
			180					185					190		
Thr	His	Gly	Leu	Pro	Ser	Arg	Val	Leu	Ser	Pro	Leu	Ile	Ser	Asn	Ala
		195					200					205			
Met	Asn	Tyr	Ala	Ala	Gly	Ile	Ser	Ala	Pro	Gln	Val	Ala	Pro	Gly	Gln
	210					215					220				
Pro	Lys	Leu	Glu	Glu	Leu	Leu	Ser	Tyr	Asn	Tyr	Ser	Lys	Leu	Ser	Glu
	225				230					235				240	
Lys	Ser	His	Ile	Tyr	Gly	Leu	Ile	Gly	Asp	Pro	Val	Asp	Arg	Ser	Ile
			245					250					255		
Ser	His	Leu	Ser	His	Asn	Phe	Leu	Leu	Ser	Lys	Leu	Ser	Leu	Asn	Ala
			260					265					270		
Thr	Tyr	Ile	Lys	Phe	Pro	Val	Thr	Ile	Gly	Glu	Val	Val	Thr	Phe	Phe
		275					280					285			

Ser Ala Ile Arg Asp Leu Pro Phe Ser Gly Leu Ser Val Thr Met Pro
 290 295 300
 Leu Lys Thr Ala Ile Phe Asp His Val Asp Ala Leu Asp Ala Ser Ala
 305 310 315 320
 Gln Leu Cys Glu Ser Ile Asn Thr Leu Val Phe Arg Asn Gln Lys Ile
 325 330 335
 Leu Gly Tyr Asn Thr Asp Gly Glu Gly Val Ala Lys Leu Leu Lys Gln
 340 345 350
 Lys Asn Ile Ser Val Asn Asn Lys His Ile Ala Ile Val Gly Ala Gly
 355 360 365
 Gly Ala Ala Lys Ala Ile Ala Ala Thr Leu Ala Met Gln Gly Ala Asn
 370 375 380
 Leu His Ile Phe Asn Arg Thr Leu Ser Ser Ala Ala Ala Leu Ala Thr
 385 390 395 400
 Cys Cys Lys Gly Lys Ala Tyr Pro Leu Gly Ser Leu Glu Asn Phe Lys
 405 410 415
 Thr Ile Asp Ile Ile Ile Asn Cys Leu Pro Pro Glu Val Thr Phe Pro
 420 425 430
 Trp Arg Phe Pro Pro Ile Val Met Asp Ile Asn Thr Lys Pro His Pro
 435 440 445
 Ser Pro Tyr Leu Glu Arg Ala Gln Lys His Gly Ser Leu Ile Ile His
 450 455 460
 Gly Tyr Glu Met Phe Ile Glu Gln Ala Leu Leu Gln Phe Ala Leu Trp
 465 470 475 480
 Phe Pro Asp Phe Leu Thr Pro Glu Ser Cys Asp Ser Phe Arg Asn Tyr
 485 490 495
 Val Lys Asn Phe Met Ala Lys Val
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<210> 1037

<211> 399

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1036

<400> 1037

Gly Tyr Asp Lys Pro Cys Ser Cys Arg Ser Cys Ile Ile Pro Thr Met
 1 5 10 15
 Leu Gln Thr Met Met Ser Glu Thr Ile Ile Thr Thr Pro His Val Val
 20 25 30
 Lys Leu Ile Ser Asn Phe Phe Gln Lys Lys Leu Phe Ser Ser Ile Ser
 35 40 45
 Thr Ala Tyr Pro Leu Val Ile Ile Thr Asp Val Ser Val Gln Gln His
 50 55 60
 Leu Leu Gly Pro Ile Leu Asp His Ile Lys Met Leu Gly Tyr Gln Val
 65 70 75 80
 Ile Val Leu Thr Phe Pro Pro Gly Glu Pro Asn Lys Thr Trp Glu Thr
 85 90 95
 Phe Ile Ser Leu Gln Tyr Gln Leu Val Asp Gln Asn Ile Ser Pro Lys
 100 105 110
 Ser Ser Ile Ile Gly Ile Gly Gly Gly Thr Val Leu Asp Met Thr Gly
 115 120 125
 Phe Leu Ala Ala Thr Tyr Cys Arg Gly Leu Pro Leu Tyr Leu Ile Pro
 130 135 140
 Thr Thr Ile Thr Ala Met Val Asp Thr Ser Ile Gly Gly Lys Asn Gly
 145 150 155 160
 Ile Asn Leu Arg Gly Ile Lys Asn Arg Leu Gly Thr Phe Tyr Leu Pro
 165 170 175

Lys Glu Val Trp Met Cys Pro Gln Phe Leu Ser Thr Leu Pro Arg Glu
 180 185 190
 Glu Trp Tyr His Gly Ile Ala Glu Ala Ile Lys His Gly Phe Ile Ala
 195 200 205
 Asp Ala Tyr Leu Trp Glu Phe Leu Asn Ser His Ser Lys Met Leu Phe
 210 215 220
 Ser Ser Ser Gln Ile Leu His Glu Phe Ile Lys Arg Asn Cys Gln Ile
 225 230 235 240
 Lys Ala Ala Ile Val Ala Glu Asp Pro Tyr Asp Arg Ser Leu Arg Lys
 245 250 255
 Ile Leu Asn Phe Gly His Ser Ile Ala His Ala Ile Glu Thr Leu Ala
 260 265 270
 Lys Gly Thr Val Asn His Gly Gln Ala Val Ser Val Gly Met Met Ile
 275 280 285
 Glu Thr Arg Ile Ser Leu Ala Glu Gly Val Met Lys Thr Pro Gln Leu
 290 295 300
 Ile Asp Gln Leu Glu Arg Leu Leu Lys Arg Phe Asn Leu Pro Ser Thr
 305 310 315 320
 Leu Lys Asp Leu Gln Ser Ile Val Pro Glu His Leu His Asn Ser Leu
 325 330 335
 Tyr Ser Pro Glu Asn Ile Ile Tyr Thr Leu Gly Tyr Asp Lys Lys Asn
 340 345 350
 Leu Ser Gln His Glu Leu Lys Met Ile Met Ile Glu His Leu Gly Arg
 355 360 365
 Ala Ala Pro Phe Asn Gly Thr Tyr Cys Ala Ser Pro Asn Met Glu Ile
 370 375 380
 Leu Tyr Asp Ile Leu Trp Ser Glu Cys His Val Met Arg His Cys
 385 390 395

<210> 1038
 <211> 388
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1037

<400> 1038

Leu His Phe Ser Arg Gly Ser Arg Arg Ser Phe Leu Glu Glu Leu Leu
 1 5 10 15
 Arg Thr Ser Val Ser Arg Ser His Tyr Leu Val Lys Val Met Lys Asn
 20 25 30
 Ser Phe Gly Ser Leu Phe Ser Phe Thr Thr Trp Gly Glu Ser His Gly
 35 40 45
 Pro Ser Ile Gly Val Val Ile Asp Gly Cys Pro Ala Gly Leu Glu Leu
 50 55 60
 His Glu Ser Asp Phe Val Pro Ala Met Lys Arg Arg Arg Pro Gly Asn
 65 70 75 80
 Pro Gly Thr Ser Ser Arg Lys Glu Asn Asp Ile Val Gln Ile Leu Ser
 85 90 95
 Gly Val Tyr Lys Gly Lys Thr Thr Gly Thr Pro Leu Ser Leu Gln Ile
 100 105 110
 Leu Asn Thr Asp Val Asp Ser Ser Pro Tyr Glu Asn Ser Glu Arg Leu
 115 120 125
 Tyr Arg Pro Gly His Ser Gln Tyr Thr Tyr Glu Lys Lys Phe Gly Ile
 130 135 140
 Val Asp Pro Asn Gly Gly Gly Arg Ser Ser Ala Arg Glu Thr Ala Cys
 145 150 155 160
 Arg Val Ala Ala Gly Val Val Ala Glu Lys Phe Leu Ala Asn Gln Asn
 165 170 175

Ile Phe Thr Leu Ala Tyr Leu Ser Ser Leu Gly Ser Leu Thr Leu Pro
 180 185 190
 His Tyr Leu Lys Ile Ser Pro Glu Leu Ile His Lys Ile His Thr Ser
 195 200 205
 Pro Phe Tyr Ser Pro Leu Pro Asn Glu Lys Ile Gln Glu Ile Leu Thr
 210 215 220
 Ser Leu His Asp Asp Ser Asp Ser Leu Gly Gly Val Ile Ser Phe Ile
 225 230 235 240
 Thr Ser Pro Ile His Asp Phe Leu Gly Glu Pro Leu Phe Gly Lys Val
 245 250 255
 His Ala Leu Leu Ala Ser Ala Leu Met Ser Ile Pro Ala Ala Lys Gly
 260 265 270
 Phe Glu Ile Gly Lys Gly Phe Ala Ser Ala Gln Met Arg Gly Ser Gln
 275 280 285
 Tyr Thr Asp Pro Phe Val Met Glu Gly Glu Asn Ile Thr Leu Lys Ser
 290 295 300
 Asn Asn Cys Gly Gly Thr Leu Gly Gly Ile Thr Ile Gly Val Pro Ile
 305 310 315 320
 Glu Gly Arg Ile Ala Phe Lys Pro Thr Ser Ser Ile Lys Arg Pro Cys
 325 330 335
 Ala Thr Val Thr Lys Thr Lys Lys Glu Thr Thr Tyr Arg Thr Pro Gln
 340 345 350
 Thr Gly Arg His Asp Pro Cys Val Ala Ile Arg Ala Val Pro Val Val
 355 360 365
 Glu Ala Met Ile Asn Leu Val Leu Ala Asp Leu Val Leu Tyr Gln Arg
 370 375 380
 Cys Ser Lys Leu
 385

<210> 1039
 <211> 184
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1038

<400> 1039
 Trp Lys Leu Glu Leu Arg Asn Val Met Thr Ile Ile Leu Cys Gly Leu
 1 5 10 15
 Pro Thr Ser Gly Lys Ser Ser Leu Gly Lys Ala Leu Ala Lys Phe Leu
 20 25 30
 Asn Leu Pro Phe Tyr Asp Leu Asp Asp Leu Ile Val Ser Asn Tyr Ser
 35 40 45
 Ser Ala Leu Tyr Ser Ser Ser Ala Glu Ile Tyr Lys Ala Tyr Gly Asp
 50 55 60
 Gln Lys Phe Ser Glu Cys Glu Ala Arg Ile Leu Glu Thr Leu Pro Pro
 65 70 75 80
 Glu Asp Ala Leu Ile Ser Leu Gly Gly Gly Thr Leu Met Tyr Glu Ala
 85 90 95
 Ser Tyr Arg Ala Ile Gln Thr Arg Gly Ala Leu Val Phe Leu Ser Val
 100 105 110
 Glu Leu Pro Leu Ile Tyr Glu Arg Leu Glu Lys Arg Gly Leu Pro Glu
 115 120 125
 Arg Leu Lys Glu Ala Met Lys Thr Lys Pro Leu Ser Glu Ile Leu Thr
 130 135 140
 Glu Arg Ile Asp Arg Met Lys Glu Ile Ala Asp Tyr Ile Phe Pro Val
 145 150 155 160
 Asp His Val Asp His Ser Ser Lys Ser Ser Leu Glu Gln Ala Ser Gln
 165 170 175

Asp Leu Ile Thr Leu Leu Lys Ser
180

<210> 1040

<211> 449

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1039

<400> 1040

Val	Cys	Phe	Thr	Met	Leu	Thr	Tyr	Lys	Val	Ser	Pro	Ser	Ser	Val	Tyr
1				5					10					15	
Gly	Asn	Ala	Phe	Ile	Pro	Ser	Ser	Lys	Ser	His	Thr	Leu	Arg	Ala	Ile
			20					25					30		
Leu	Trp	Ala	Ser	Val	Ala	Glu	Gly	Lys	Ser	Ile	Ile	Tyr	Asn	Tyr	Leu
	35						40					45			
Asp	Ser	Pro	Asp	Thr	Glu	Ala	Met	Ile	Cys	Ala	Cys	Lys	Gln	Met	Gly
	50					55					60				
Ala	Ser	Ile	Lys	Lys	Phe	Pro	Gln	Ile	Leu	Glu	Ile	Val	Gly	Asn	Pro
65					70					75				80	
Leu	Ala	Ile	Phe	Pro	Lys	Tyr	Thr	Leu	Ile	Asp	Ala	Gly	Asn	Ser	Gly
			85					90					95		
Ile	Val	Leu	Arg	Phe	Met	Thr	Ala	Leu	Ala	Cys	Val	Phe	Ser	Lys	Glu
			100					105					110		
Ile	Thr	Val	Thr	Gly	Ser	Ser	Gln	Leu	Gln	Arg	Arg	Pro	Met	Ala	Pro
	115						120					125			
Leu	Leu	Gln	Ala	Leu	Arg	Asn	Phe	Gly	Ala	Ser	Phe	His	Phe	Ser	Ser
	130					135					140				
Asp	Lys	Ser	Val	Leu	Pro	Phe	Thr	Met	Ser	Gly	Pro	Leu	Arg	Ser	Ala
145					150					155				160	
Tyr	Ser	Asp	Val	Glu	Gly	Ser	Asp	Ser	Gln	Phe	Ala	Ser	Ala	Leu	Ala
				165					170					175	
Val	Ala	Cys	Ser	Leu	Ala	Glu	Gly	Pro	Cys	Ser	Phe	Thr	Ile	Ile	Glu
			180					185					190		
Pro	Lys	Glu	Arg	Pro	Trp	Phe	Asp	Leu	Ser	Leu	Trp	Trp	Leu	Glu	Lys
	195						200					205			
Leu	His	Leu	Pro	Tyr	Ser	Cys	Ser	Asp	Thr	Thr	Tyr	Ser	Phe	Pro	Gly
	210					215					220				
Ser	Ser	His	Pro	Gln	Gly	Phe	Ser	Tyr	His	Val	Thr	Gly	Asp	Phe	Ser
225				230						235				240	
Ser	Ala	Ala	Phe	Ile	Ala	Ala	Ala	Ala	Leu	Leu	Ser	Lys	Ser	Leu	Gln
			245						250					255	
Pro	Ile	Arg	Leu	Arg	Asn	Leu	Asp	Ile	Leu	Asp	Ile	Gln	Gly	Asp	Lys
			260					265					270		
Ile	Phe	Phe	Ser	Leu	Met	Gln	Asn	Leu	Gly	Ala	Ser	Ile	Gln	Tyr	Asp
	275					280						285			
Asn	Glu	Glu	Ile	Leu	Val	Phe	Pro	Ser	Ser	Phe	Ser	Gly	Gly	Ser	Ile
	290					295					300				
Asp	Met	Asp	Gly	Cys	Ile	Asp	Ala	Leu	Pro	Ile	Leu	Thr	Val	Leu	Cys
305				310						315				320	
Cys	Phe	Ala	Asp	Ser	Pro	Ser	His	Leu	Tyr	Asn	Ala	Arg	Ser	Ala	Lys
			325						330					335	
Asp	Lys	Glu	Ser	Asp	Arg	Ile	Leu	Ala	Ile	Thr	Glu	Glu	Leu	Gln	Lys
			340					345					350		
Met	Gly	Ala	Cys	Ile	Gln	Pro	Thr	His	Asp	Gly	Leu	Leu	Val	Asn	Pro
	355						360					365			
Ser	Pro	Leu	Tyr	Gly	Ala	Val	Leu	Asp	Ser	His	Asp	Asp	His	Arg	Ile
	370					375					380				

Ala	Met	Ala	Leu	Thr	Ile	Ala	Ala	Leu	Tyr	Ala	Ser	Gly	Asp	Ser	Arg
385					390					395					400
Ile	His	Asn	Thr	Ala	Cys	Val	Arg	Lys	Thr	Phe	Pro	Asn	Phe	Val	Gln
				405					410					415	
Thr	Leu	Asn	Ile	Met	Glu	Ala	Arg	Ile	Glu	Glu	Cys	His	Asp	Asn	Tyr
			420					425					430		
Ser	Met	Trp	Ser	Thr	His	Lys	Arg	Lys	Val	Phe	Ala	Arg	Glu	Ser	Phe
		435					440					445			
Gly															

<210> 1041
 <211> 268
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1040

<400> 1041															
Arg	Pro	Ser	Gln	Ser	Leu	Phe	Leu	Arg	Thr	Trp	Ser	Pro	Ser	Ser	Ser
1				5					10					15	
Phe	Arg	Glu	His	Thr	Val	Cys	Ala	Ala	Pro	Leu	Leu	Tyr	Pro	Arg	Arg
			20					25					30		
Arg	Ser	Pro	Asp	Tyr	Leu	Phe	Ser	Pro	Thr	Gly	Cys	Pro	Met	Ser	Thr
		35					40					45			
Thr	Thr	Val	Lys	His	Phe	Ile	His	Thr	Ala	Ser	Arg	Trp	Glu	Pro	Val
	50					55					60				
Leu	Lys	Glu	Ile	Val	Ala	Ser	Asn	Tyr	Trp	His	Ala	Gln	Trp	Ile	Asn
65				70						75				80	
Thr	Leu	Ser	Phe	Leu	Glu	Asn	Ser	Gly	Ala	Lys	Lys	Ile	Ser	Ala	Ser
			85						90					95	
Glu	His	Pro	Thr	Glu	Val	Lys	Glu	Glu	Val	Leu	Lys	His	Ala	Ala	Glu
			100					105					110		
Glu	Phe	Arg	His	Gly	His	Tyr	Leu	Lys	Thr	Gln	Ile	Ser	Arg	Ile	Ser
		115					120					125			
Glu	Thr	Ser	Leu	Pro	Asp	Tyr	Thr	Ser	Lys	Asn	Leu	Leu	Gly	Gly	Leu
	130					135					140				
Leu	Thr	Lys	Tyr	Tyr	Leu	His	Leu	Leu	Asp	Leu	Arg	Thr	Cys	Arg	Val
145					150					155					160
Leu	Glu	Asn	Glu	Tyr	Ser	Leu	Ser	Gly	Gln	Thr	Leu	Lys	Thr	Ala	Ala
			165						170					175	
Tyr	Ile	Leu	Val	Thr	Tyr	Ala	Ile	Glu	Leu	Arg	Ala	Ser	Glu	Leu	Tyr
		180						185					190		
Pro	Leu	Tyr	His	Asp	Ile	Leu	Lys	Glu	Ala	Gln	Ser	Lys	Ile	Thr	Val
		195					200					205			
Lys	Ser	Ile	Ile	Leu	Glu	Glu	Gln	Gly	His	Leu	Gln	Glu	Met	Glu	Arg
		210				215					220				
Glu	Leu	Lys	Asp	Leu	Pro	His	Gly	Glu	Glu	Leu	Leu	Gly	Tyr	Ala	Cys
225					230					235					240
Gln	Phe	Glu	Gly	Glu	Leu	Cys	Leu	Gln	Phe	Val	Glu	Arg	Leu	Glu	Gln
			245						250					255	
Met	Ile	Phe	Asp	Pro	Ser	Ser	Thr	Phe	Thr	Lys	Phe				
			260						265						

<210> 1042
 <211> 526
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn1041

<400> 1042

Asp	Phe	Arg	Arg	Ile	Phe	Ile	Pro	Leu	His	Ile	Lys	Lys	Thr	Ser	Gly
1				5					10					15	
Arg	Cys	Val	Phe	Phe	Leu	Val	Met	Phe	Leu	Asp	Phe	Ser	Glu	Pro	Ser
			20					25					30		
Ile	Ser	Arg	Lys	Tyr	Gln	Ser	His	Leu	Phe	Asn	Gly	Arg	Ser	Asn	Ala
	35					40						45			
Leu	Thr	Lys	Pro	Gln	Tyr	Leu	Arg	Tyr	Gly	Gly	Lys	Trp	Val	Ser	Arg
	50					55					60				
Gly	Arg	Arg	Ala	Leu	Ala	Asn	Ser	Arg	Asn	Gln	Ala	Ser	Tyr	Asn	Arg
65				70						75				80	
Asp	Ser	Cys	Gln	Gly	Lys	Arg	Asn	His	Lys	Asp	Asn	His	Lys	Leu	Leu
			85						90					95	
Cys	Arg	Thr	Met	Glu	Gly	Ser	Met	Asp	Lys	Gln	Ser	Ser	Gly	Asn	Ser
			100					105						110	
Gly	Cys	Ile	Trp	His	Pro	Phe	Thr	Gln	Ser	Ala	Leu	Asp	Ser	Thr	Pro
	115					120						125			
Ile	Lys	Ile	Val	Arg	Gly	Glu	Gly	Ala	Tyr	Leu	Tyr	Ala	Glu	Ser	Gly
	130					135					140				
Thr	Arg	Tyr	Leu	Asp	Ala	Ile	Ser	Ser	Trp	Trp	Cys	Asn	Leu	His	Gly
145				150						155				160	
His	Gly	His	Pro	Tyr	Ile	Thr	Lys	Lys	Leu	Cys	Glu	Gln	Ala	Gln	Lys
			165						170					175	
Leu	Glu	His	Val	Ile	Phe	Ala	Asn	Phe	Thr	His	Glu	Pro	Ala	Leu	Glu
			180					185					190		
Leu	Val	Ser	Lys	Leu	Ala	Pro	Leu	Leu	Pro	Glu	Gly	Leu	Glu	Arg	Phe
	195					200						205			
Phe	Phe	Ser	Asp	Asn	Gly	Ser	Thr	Ser	Ile	Glu	Ile	Ala	Met	Lys	Ile
	210					215					220				
Ala	Val	Gln	Tyr	Tyr	Tyr	Asn	Gln	Asn	Lys	Ala	Lys	Ser	His	Phe	Val
225				230						235				240	
Gly	Leu	Ser	Asn	Ala	Tyr	His	Gly	Asp	Thr	Phe	Gly	Ala	Met	Ser	Ile
			245					250						255	
Ala	Gly	Thr	Ser	Pro	Thr	Thr	Val	Pro	Phe	His	Asp	Leu	Phe	Leu	Pro
			260					265					270		
Ser	Ser	Thr	Ile	Ala	Ala	Pro	Tyr	Tyr	Gly	Lys	Glu	Glu	Leu	Ala	Ile
		275				280						285			
Ala	Gln	Ala	Lys	Thr	Val	Phe	Ser	Glu	Ser	Asn	Ile	Ala	Ala	Phe	Ile
	290					295					300				
Tyr	Glu	Pro	Leu	Leu	Gln	Gly	Ala	Gly	Gly	Met	Leu	Met	Tyr	Asn	Pro
305				310						315				320	
Glu	Gly	Leu	Lys	Glu	Ile	Leu	Lys	Leu	Ala	Lys	His	Tyr	Gly	Val	Leu
			325						330					335	
Cys	Ile	Ala	Asp	Glu	Ile	Leu	Thr	Gly	Phe	Gly	Arg	Thr	Gly	Pro	Leu
			340					345					350		
Phe	Ala	Ser	Glu	Phe	Thr	Asp	Ile	Pro	Pro	Asp	Ile	Ile	Cys	Leu	Ser
		355					360						365		
Lys	Gly	Leu	Thr	Gly	Gly	Tyr	Leu	Pro	Leu	Ala	Leu	Thr	Val	Thr	Thr
	370					375						380			
Lys	Glu	Ile	His	Asp	Ala	Phe	Val	Ser	Gln	Asp	Arg	Met	Lys	Ala	Leu
385				390						395				400	
Leu	His	Gly	His	Thr	Phe	Thr	Gly	Asn	Pro	Leu	Gly	Cys	Ser	Ala	Ala
			405						410					415	
Leu	Ala	Ser	Leu	Asp	Leu	Thr	Leu	Ser	Pro	Glu	Cys	Leu	Gln	Gln	Arg
		420						425					430		
Gln	Met	Ile	Glu	Arg	Cys	His	Gln	Glu	Phe	Gln	Glu	Ala	His	Gly	Ser
		435					440						445		

Leu	Trp	Gln	Arg	Cys	Glu	Val	Leu	Gly	Thr	Val	Leu	Ala	Leu	Asp	Tyr
450						455					460				
Pro	Ala	Glu	Ala	Thr	Gly	Tyr	Phe	Ser	Gln	Tyr	Arg	Asp	His	Leu	Asn
465					470					475					480
Arg	Phe	Phe	Leu	Glu	Arg	Gly	Val	Leu	Leu	Arg	Pro	Leu	Gly	Asn	Thr
			485						490					495	
Leu	Tyr	Val	Leu	Pro	Pro	Tyr	Cys	Ile	Gln	Glu	Glu	Asp	Leu	Arg	Ile
		500						505					510		
Ile	Tyr	Ser	His	Leu	Gln	Asp	Ala	Leu	Cys	Leu	Gln	Pro	Gln		
	515						520					525			

<210> 1043
 <211> 232
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1042

Asn	Arg	Ser	Pro	Phe	Thr	Tyr	Phe	Arg	Ala	Asn	Phe	Phe	Met	Gln	Arg
1				5					10					15	
Ile	Ile	Ile	Val	Gly	Ile	Asp	Thr	Gly	Val	Gly	Lys	Thr	Ile	Val	Ser
			20					25					30		
Ala	Ile	Leu	Ala	Arg	Ala	Leu	Asn	Ala	Glu	Tyr	Trp	Lys	Pro	Ile	Gln
	35						40					45			
Ala	Gly	Asn	Leu	Glu	Asn	Ser	Asp	Ser	Asn	Ile	Val	His	Glu	Leu	Ser
	50					55					60				
Gly	Ala	Tyr	Cys	His	Pro	Glu	Ala	Tyr	Arg	Leu	His	Lys	Pro	Leu	Ser
65					70					75				80	
Pro	His	Lys	Ala	Ala	Gln	Ile	Asp	Asn	Val	Ser	Ile	Glu	Glu	Ser	His
			85						90					95	
Ile	Cys	Ala	Pro	Lys	Thr	Thr	Ser	Asn	Leu	Ile	Ile	Glu	Thr	Ser	Gly
			100					105						110	
Gly	Phe	Leu	Ser	Pro	Cys	Thr	Ser	Lys	Arg	Leu	Gln	Gly	Asp	Val	Phe
	115						120					125			
Ser	Ser	Trp	Ser	Cys	Ser	Trp	Ile	Leu	Val	Ser	Gln	Ala	Tyr	Leu	Gly
	130					135					140				
Ser	Ile	Asn	His	Thr	Cys	Leu	Thr	Val	Glu	Ala	Met	Arg	Ser	Arg	Asn
145					150					155					160
Leu	Asn	Ile	Leu	Gly	Met	Val	Val	Asn	Gly	Tyr	Pro	Glu	Asp	Glu	Glu
			165						170					175	
His	Trp	Leu	Thr	Gln	Glu	Ile	Lys	Leu	Pro	Ile	Ile	Gly	Thr	Leu	Ala
		180						185						190	
Lys	Glu	Lys	Glu	Ile	Thr	Lys	Thr	Ile	Ile	Ser	Cys	Tyr	Ala	Glu	Gln
		195					200						205		
Trp	Lys	Glu	Val	Trp	Thr	Ser	Asn	His	Gln	Gly	Ile	Gln	Gly	Val	Ser
	210					215					220				
Gly	Thr	Pro	Ser	Leu	Asn	Leu	His								
225					230										

<210> 1044
 <211> 383
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1043

<400> 1044

Pro	Met	Leu	Cys	Gln	Gln	Phe	Leu	Ile	Glu	Ala	Leu	Ala	Arg	Arg	Lys
1			5						10					15	
Ser	Lys	His	Thr	Tyr	Arg	Ser	Leu	Ser	Leu	Asn	Ser	His	Leu	Ile	Asp
			20					25					30		
Phe	Thr	Ser	Asn	Asp	Tyr	Leu	Gly	Phe	Ala	Ser	Ser	Pro	Glu	Leu	Arg
		35					40					45			
Lys	Glu	Tyr	Ile	Thr	Lys	Leu	His	Ala	Ile	Glu	Ser	Leu	Gly	Ala	Thr
	50					55					60				
Gly	Ser	Arg	Leu	Leu	Thr	Gly	His	Ser	Gln	Leu	Cys	Gln	Arg	Ile	Glu
65					70					75					80
Glu	Gln	Leu	Ala	Ala	Tyr	His	Asn	Phe	Glu	Ser	Cys	Leu	Ile	Phe	Asn
			85					90						95	
Thr	Gly	Tyr	Thr	Ala	Asn	Leu	Gly	Leu	Leu	Tyr	Ala	Leu	Ala	Thr	Asp
			100					105					110		
Gln	Asp	Arg	Ile	Leu	His	Asp	Leu	Tyr	Ile	His	Ala	Ser	Ile	Tyr	Asp
	115						120					125			
Gly	Ile	Arg	Leu	Ser	Lys	Ala	Gln	Ser	Phe	Pro	Phe	Asn	His	Asn	Asp
	130					135					140				
Leu	Asn	His	Leu	Glu	Lys	Arg	Leu	Ala	Ser	Ser	His	Leu	Gly	Arg	Thr
145					150					155					160
Phe	Val	Cys	Val	Glu	Ser	Val	Tyr	Ser	Leu	His	Gly	Ser	Val	Ala	Pro
				165					170					175	
Leu	Gln	Ala	Ile	Ser	Glu	Leu	Cys	Glu	Arg	Tyr	Ser	Ala	Tyr	Leu	Ile
			180					185					190		
Val	Asp	Glu	Ala	His	Ala	Val	Gly	Val	Phe	Gly	Asp	Gln	Gly	Glu	Gly
	195						200					205			
Leu	Val	Ser	Ala	Leu	Gly	Leu	Gln	Asp	Lys	Val	Leu	Ala	Thr	Val	Tyr
	210					215					220				
Thr	Phe	Gly	Lys	Ala	Leu	Gly	Thr	His	Gly	Ala	Ala	Ile	Ala	Gly	Ser
225					230					235					240
Ser	Ile	Leu	Lys	Asp	Tyr	Leu	Ile	Asn	Phe	Cys	Arg	Pro	Phe	Ile	Tyr
			245						250					255	
Thr	Thr	Ala	Gln	Pro	Pro	His	Ala	Leu	Thr	Ala	Ile	Glu	Leu	Ala	Tyr
			260					265					270		
Glu	His	Asn	Gln	Arg	Ala	Phe	Asn	Gln	Arg	Glu	His	Leu	Ser	Ala	Leu
		275					280					285			
Ile	His	His	Phe	Arg	Glu	Lys	Ala	Gln	Asn	Leu	Gly	Leu	Gln	Leu	Met
	290					295					300				
Lys	Asp	Asn	Thr	Thr	Thr	Pro	Ile	Gln	Ser	Ile	Cys	Val	Ser	Gly	Ser
305					310					315					320
His	Arg	Ala	Arg	Gln	Ala	Ala	Leu	Gln	Ile	Gln	Asn	Ser	Gly	Tyr	Asp
				325					330					335	
Val	Arg	Pro	Ile	Val	Ser	Pro	Thr	Val	Lys	Gln	Arg	Glu	Glu	Leu	Leu
			340					345					350		
Arg	Ile	Cys	Leu	His	Ala	Phe	Asn	Thr	Lys	Asn	Glu	Ile	Asp	His	Leu
		355					360					365			
Leu	His	Thr	Leu	Glu	Gln	Ile	Phe	Leu	Cys	Asn	Val	Ser	Ser	Leu	
	370					375						380			

<210> 1045

<211> 334

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1044

<400> 1045

Ala	Lys	His	Met	Arg	Glu	Glu	Thr	Val	Ser	Trp	Ser	Leu	Glu	Asp	Ile
1				5					10					15	

Arg	Glu	Ile	Tyr	His	Thr	Pro	Val	Phe	Glu	Leu	Ile	His	Lys	Ala	Asn
		20						25					30		
Ala	Ile	Leu	Arg	Ser	Asn	Phe	Leu	His	Ser	Glu	Leu	Gln	Thr	Cys	Tyr
	35					40						45			
Leu	Ile	Ser	Ile	Lys	Thr	Gly	Gly	Cys	Val	Glu	Asp	Cys	Ala	Tyr	Cys
	50					55					60				
Ala	Gln	Ser	Ser	Arg	Tyr	His	Thr	His	Val	Thr	Pro	Glu	Pro	Met	Met
65					70					75				80	
Lys	Ile	Val	Asp	Val	Glu	Arg	Ala	Lys	Arg	Ala	Val	Glu	Leu	Gly	
			85					90					95		
Ala	Thr	Arg	Val	Cys	Leu	Gly	Ala	Ala	Trp	Arg	Asn	Ala	Lys	Asp	Asp
		100					105						110		
Arg	Tyr	Phe	Asp	Arg	Val	Leu	Ala	Met	Val	Lys	Ser	Ile	Thr	Asp	Leu
	115					120						125			
Gly	Ala	Glu	Val	Cys	Cys	Ala	Leu	Gly	Met	Leu	Ser	Glu	Glu	Gln	Ala
	130					135					140				
Lys	Lys	Leu	Tyr	Asp	Ala	Gly	Leu	Tyr	Ala	Tyr	Asn	His	Asn	Leu	Asp
145				150						155				160	
Ser	Ser	Pro	Glu	Phe	Tyr	Glu	Thr	Ile	Ile	Thr	Thr	Arg	Ser	Tyr	Glu
			165					170						175	
Asp	Arg	Leu	Asn	Thr	Leu	Asp	Val	Val	Asn	Lys	Ser	Gly	Ile	Ser	Thr
		180					185						190		
Cys	Cys	Gly	Gly	Ile	Val	Gly	Met	Gly	Glu	Ser	Glu	Glu	Asp	Arg	Ile
	195					200						205			
Lys	Leu	Leu	His	Val	Leu	Ala	Thr	Arg	Asp	His	Ile	Pro	Glu	Ser	Val
	210					215					220				
Pro	Val	Asn	Leu	Leu	Trp	Pro	Ile	Asp	Gly	Thr	Pro	Leu	Gln	Asp	Gln
225				230						235				240	
Pro	Pro	Ile	Ser	Phe	Trp	Glu	Val	Leu	Arg	Thr	Ile	Ala	Thr	Ala	Arg
			245					250						255	
Val	Val	Phe	Pro	Arg	Ser	Met	Val	Arg	Leu	Ala	Ala	Gly	Arg	Ala	Phe
		260					265						270		
Leu	Thr	Val	Glu	Gln	Gln	Thr	Leu	Cys	Phe	Leu	Ala	Gly	Ala	Asn	Ser
	275					280						285			
Ile	Phe	Tyr	Gly	Asp	Lys	Leu	Leu	Thr	Val	Glu	Asn	Asn	Asp	Ile	Asp
	290					295				300					
Glu	Asp	Ala	Glu	Met	Ile	Lys	Leu	Leu	Gly	Leu	Ile	Pro	Arg	Pro	Ser
305					310					315				320	
Phe	Gly	Ile	Glu	Arg	Gly	Asn	Pro	Cys	Tyr	Ala	Asn	Asn	Ser		
			325						330						

<210> 1046
 <211> 234
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1045

<400> 1046															
Gly	Thr	Leu	Pro	Met	Asn	Thr	Ser	His	Arg	Lys	Thr	Leu	Val	Phe	Ser
1				5					10					15	
Tyr	Leu	Ser	Ser	Thr	Phe	Thr	Leu	Leu	Leu	Val	Leu	Ser	Asn	Leu	Val
		20					25					30			
Leu	Ser	Ser	Lys	Leu	Ile	Pro	Thr	Thr	Phe	Phe	Asn	Phe	Ile	Ile	Pro
	35					40					45				
Gly	Gly	Leu	Ile	Leu	Tyr	Pro	Leu	Thr	Phe	Leu	Ile	Ser	Asp	Val	Val
	50					55				60					
Asn	Glu	Ile	Phe	Gly	Pro	Lys	Lys	Ala	Arg	Val	Met	Ile	Phe	Ser	Ala
65					70					75				80	

Arg	Ile	Gln	Thr	Leu	Gln	Ser	Asn	Leu	Ile	Ala	Ile	Val	Arg	Cys	Phe
				245					250					255	
Trp	Phe	Thr	Val	Glu	Ser	Gly	Leu	Ile	Glu	Asn	His	Glu	Gly	Arg	Lys
			260					265					270		
Ala	Tyr	Gly	Ala	Val	Leu	Ile	Ser	Ser	Pro	Gln	Glu	Leu	Gly	His	Ala
		275					280					285			
Phe	Ile	Asp	Asn	Val	Arg	Val	Leu	Pro	Leu	Glu	Leu	Asp	Gln	Ile	Ile
	290					295					300				
Arg	Leu	Pro	Phe	Asn	Thr	Ser	Thr	Pro	Gln	Glu	Thr	Leu	Phe	Ser	Ile
305				310						315				320	
Arg	His	Phe	Asp	Glu	Leu	Val	Glu	Leu	Thr	Ser	Lys	Leu	Glu	Trp	Met
			325					330					335		
Leu	Asp	Gln	Gly	Leu	Leu	Glu	Ser	Ile	Pro	Leu	Tyr	Asn	Gln	Glu	Lys
		340					345					350			
Tyr	Leu	Ser	Gly	Phe	Glu	Val	Leu	Cys	Gln						
	355						360								

<210> 1048

<211> 269

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1047

<400> 1048

Phe	Gly	Ser	Arg	Asn	Met	Gly	Ser	Ser	Met	His	Val	Gly	Val	Ile	Gly
1				5					10					15	
Cys	Ser	Gly	Arg	Thr	Gly	Lys	Val	Ile	Val	Ser	Ala	Leu	Glu	Gln	Ser
			20					25				30			
Ser	Glu	Tyr	Thr	Leu	Gly	Pro	Gly	Phe	Ser	Arg	Ser	Ser	Ala	Leu	Thr
		35				40					45				
Leu	Phe	Gln	Val	Ile	Ala	His	Asn	Asp	Val	Leu	Val	Asp	Phe	Ser	His
	50					55				60					
Pro	Leu	Leu	Thr	Lys	Glu	Val	Val	Ala	His	Leu	Leu	Ile	Ser	Pro	Lys
65				70					75					80	
Pro	Leu	Ile	Ile	Gly	Thr	Thr	Gly	Phe	Pro	Gly	Lys	Cys	Lys	Glu	Ala
			85					90					95		
His	Asp	Ser	Leu	Glu	Glu	Leu	Thr	His	Ile	Val	Pro	Val	Val	Val	Cys
		100						105					110		
Pro	Asn	Ala	Ser	Leu	Gly	Ala	Tyr	Ile	His	Lys	Arg	Leu	Val	Met	Leu
	115						120					125			
Leu	Ser	Gln	Leu	Cys	Asn	Pro	Gln	Phe	Asp	Ile	Arg	Ile	Arg	Glu	Thr
	130				135					140					
His	His	Arg	Tyr	Lys	Lys	Asp	Ser	Leu	Ser	Gly	Thr	Ala	Gln	Asp	Leu
145				150						155				160	
Leu	Asp	Thr	Ile	Gln	Gln	Val	Lys	Gln	Glu	Asp	Trp	Gly	Glu	Glu	Tyr
			165						170				175		
Glu	Val	Gly	Gln	Arg	Asp	Ser	Ser	Lys	Lys	Thr	Ile	Glu	Val	Gln	Ser
		180						185					190		
Ser	Arg	Val	Gly	Asp	Ile	Pro	Gly	Glu	His	Glu	Val	Ala	Phe	Ile	Ser
		195					200					205			
Ser	Gly	Glu	Gln	Ile	Leu	Val	Arg	His	Thr	Val	Phe	Ser	Arg	Asn	Val
	210					215					220				
Phe	Gly	Arg	Gly	Ile	Leu	Ser	Ile	Leu	Asp	Trp	Leu	Lys	Thr	Leu	Asn
225				230						235				240	
Pro	Gln	Pro	Gly	Leu	Tyr	Ser	Leu	Gly	Asp	Thr	Leu	Glu	Leu	Val	Leu
			245						250				255		
Arg	Asn	Glu	His	Cys	Leu	Leu	Lys	Lys	Thr	Thr	Asp	His			
		260						265							

<210> 1049
 <211> 339
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1048

<400> 1049
 Asp Gly Glu Arg Lys Gly Met Arg Ile Ala Val Leu Gly Val Thr Gly
 1 5 10 15
 Leu Val Gly Gln Lys Phe Val Ala Leu Leu His Lys Trp Tyr Arg Asp
 20 25 30
 Trp Val Ile Ala Glu Val Val Ala Ser Asn Ser Lys Tyr Gly Gln Ser
 35 40 45
 Tyr Gly Asp Ala Cys Ile Trp Gln Glu Pro Ile Gly Pro Met Pro Glu
 50 55 60
 Met Val Arg Asp Leu Pro Ile Arg Lys Ile Glu Val Gln Ser Asp
 65 70 75 80
 Ile Val Val Ser Phe Leu Pro Ser Ser Ala Glu Ser Met Glu Ala Tyr
 85 90 95
 Cys Leu Ser Gln Gly Lys Val Val Phe Ser Asn Ala Ser Thr Tyr Arg
 100 105 110
 Met His Ser Ser Val Pro Ile Ile Ile Pro Glu Val Asn Ser Asp His
 115 120 125
 Phe Gln Leu Leu Glu Glu Gln Pro Tyr Pro Gly Lys Ile Ile Thr Ser
 130 135 140
 Pro Asn Cys Cys Val Ser Gly Ile Thr Leu Ala Leu Ala Pro Leu Arg
 145 150 155 160
 Lys Phe Ser Leu Asp His Val His Ile Val Thr Leu Gln Ser Ala Ser
 165 170 175
 Gly Ala Gly Tyr Pro Gly Val Pro Ser Leu Asp Leu Leu Ala Asn Thr
 180 185 190
 Val Pro His Ile Val Gly Glu Glu Lys Ile Leu Arg Glu Thr Val
 195 200 205
 Lys Ile Leu Gly Ser Ser Lys Gln Pro Leu Pro Cys Lys Leu Ser Val
 210 215 220
 Thr Val His Arg Val Pro Val Ala Tyr Gly His Thr Leu Ser Leu His
 225 230 235 240
 Val Thr Phe Ser Lys Asp Val Asp Leu Asp Glu Ile Leu Tyr Ser Tyr
 245 250 255
 Gln Glu Lys Asn Lys Glu Phe Pro Asn Thr Tyr Gln Leu Tyr Asp Asn
 260 265 270
 Pro Trp Ser Pro Gln Ala Arg Lys His Leu Ser His Asp Asp Met Arg
 275 280 285
 Val His Leu Gly Pro Ile Thr Tyr Gly Gly Asp Phe Arg Thr Ile Lys
 290 295 300
 Met Asn Val Leu Ile His Asn Leu Val Arg Gly Ala Ala Gly Thr Leu
 305 310 315 320
 Leu Ala Ser Met Glu Asn Tyr Phe Phe Asp Tyr Leu Lys Arg Glu Met
 325 330 335
 Cys Leu Arg

<210> 1050
 <211> 443
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1049

<400> 1050

Glu	Gly	Asn	Val	Ser	Lys	Ile	Val	Tyr	Lys	Phe	Gly	Gly	Thr	Ser	Leu
1				5					10					15	
Ala	Thr	Ala	Glu	Asn	Ile	Cys	Leu	Val	Cys	Asp	Ile	Ile	Cys	Lys	Asp
			20					25					30		
Lys	Pro	Ser	Phe	Val	Val	Val	Ser	Ala	Ile	Ala	Gly	Val	Thr	Asp	Leu
		35					40					45			
Leu	Val	Asp	Phe	Cys	Ser	Ser	Ser	Leu	Arg	Glu	Arg	Glu	Glu	Val	Leu
50						55					60				
Arg	Lys	Ile	Glu	Gly	Lys	His	Glu	Glu	Ile	Val	Lys	Asn	Leu	Ala	Ile
65					70					75					80
Pro	Phe	Pro	Val	Ser	Thr	Trp	Thr	Ser	Arg	Leu	Leu	Pro	Tyr	Leu	Gln
				85				90					95		
His	Leu	Glu	Ile	Ser	Asp	Leu	Asp	Phe	Ala	Arg	Ile	Leu	Ser	Leu	Gly
			100					105					110		
Glu	Asp	Ile	Ser	Ala	Ser	Leu	Val	Arg	Ala	Val	Cys	Ser	Thr	Arg	Gly
		115					120					125			
Trp	Asp	Leu	Gly	Phe	Leu	Glu	Ala	Arg	Ser	Val	Ile	Leu	Thr	Asp	Asp
	130						135				140				
Ser	Tyr	Arg	Arg	Ala	Ser	Pro	Asn	Leu	Asp	Leu	Met	Lys	Ala	His	Trp
145					150				155						160
His	Gln	Leu	Glu	Leu	Asn	Gln	Pro	Ser	Tyr	Ile	Ile	Gln	Gly	Phe	Ile
				165					170					175	
Gly	Ser	Asn	Gly	Leu	Gly	Glu	Thr	Val	Leu	Leu	Gly	Arg	Gly	Gly	Ser
		180						185					190		
Asp	Tyr	Ser	Ala	Thr	Leu	Ile	Ala	Glu	Leu	Ala	Arg	Ala	Thr	Glu	Val
		195					200					205			
Arg	Ile	Tyr	Thr	Asp	Val	Asn	Gly	Ile	Tyr	Thr	Met	Asp	Pro	Lys	Val
	210					215					220				
Ile	Ser	Asp	Ala	Gln	Arg	Ile	Pro	Glu	Leu	Ser	Phe	Glu	Glu	Met	Gln
225					230					235					240
Asn	Leu	Ala	Ser	Phe	Gly	Ala	Lys	Val	Leu	Tyr	Pro	Pro	Met	Leu	Phe
				245				250						255	
Pro	Cys	Met	Arg	Ala	Gly	Ile	Pro	Ile	Phe	Val	Thr	Ser	Thr	Phe	Asp
		260						265					270		
Pro	Glu	Lys	Gly	Gly	Thr	Trp	Val	Tyr	Ala	Val	Asp	Lys	Ser	Val	Ser
		275					280					285			
Tyr	Glu	Pro	Arg	Ile	Lys	Ala	Leu	Ser	Leu	Ser	Gln	Tyr	Gln	Ser	Phe
	290				295						300				
Cys	Ser	Val	Asp	Tyr	Thr	Val	Leu	Gly	Cys	Gly	Gly	Leu	Glu	Glu	Ile
305					310					315					320
Leu	Gly	Ile	Leu	Glu	Ser	His	Gly	Ile	Asp	Pro	Glu	Leu	Met	Ile	Ala
				325					330					335	
Gln	Asn	Asn	Val	Val	Gly	Phe	Val	Met	Asp	Asp	Asp	Ile	Ile	Ser	Gln
			340					345					350		
Glu	Ala	Gln	Glu	His	Leu	Val	Asp	Val	Leu	Ser	Leu	Ser	Ser	Val	Thr
		355					360					365			
Arg	Leu	His	His	Ser	Val	Ala	Leu	Ile	Thr	Met	Ile	Gly	Asp	Asn	Leu
	370					375					380				
Ser	Ser	Pro	Lys	Val	Val	Ser	Thr	Ile	Thr	Glu	Lys	Leu	Arg	Gly	Phe
385					390					395					400
Gln	Gly	Pro	Val	Phe	Cys	Phe	Cys	Gln	Ser	Ser	Met	Ala	Leu	Ser	Phe
				405				410					415		
Val	Val	Ala	Ser	Glu	Leu	Ala	Glu	Gly	Ile	Ile	Glu	Glu	Leu	His	Asn
			420				425						430		
Asp	Tyr	Val	Lys	Gln	Lys	Ala	Ile	Val	Ala	Thr					
		435					440								

<210> 1051
 <211> 305
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1050

<400> 1051
 Leu Cys Lys Thr Lys Ser Tyr Ser Arg His Val Gly Arg Ile Met His
 1 5 10 15
 Leu Leu Thr Ala Thr Val Thr Pro Phe Phe Pro Asn Gly Thr Ile Asp
 20 25 30
 Phe Ala Ser Leu Glu Arg Leu Leu Ser Phe Gln Asp Ala Val Gly Asn
 35 40 45
 Gly Val Val Leu Leu Gly Ser Thr Gly Glu Gly Leu Ser Leu Thr Lys
 50 55 60
 Lys Glu Lys Gln Ala Leu Ile Cys Phe Ala Cys Asp Leu Gln Leu Lys
 65 70 75 80
 Val Pro Leu Phe Val Gly Thr Ser Gly Thr Leu Leu Glu Glu Val Leu
 85 90 95
 Asp Trp Ile His Phe Cys Asn Asp Leu Pro Ile Ser Gly Phe Leu Met
 100 105 110
 Thr Thr Pro Ile Tyr Thr Lys Pro Lys Leu Cys Gly Gln Ile Leu Trp
 115 120 125
 Phe Glu Ala Val Leu Asn Ala Ala Lys His Pro Ala Ile Leu Tyr Asn
 130 135 140
 Ile Pro Ser Arg Ala Ala Thr Pro Leu Tyr Leu Asp Thr Val Lys Ala
 145 150 155 160
 Leu Ala His His Pro Gln Phe Leu Gly Ile Lys Asp Ser Gly Gly Ser
 165 170 175
 Val Glu Glu Phe Gln Ser Tyr Lys Ser Ile Ala Pro His Ile Gln Leu
 180 185 190
 Tyr Cys Gly Asp Asp Val Phe Trp Ser Glu Met Ala Ala Cys Gly Ala
 195 200 205
 His Gly Leu Ile Ser Val Leu Ser Asn Ala Trp Pro Glu Glu Ala Arg
 210 215 220
 Glu Tyr Val Leu Asn Pro Gln Glu Gln Asp Tyr Arg Ser Leu Trp Met
 225 230 235 240
 Glu Thr Cys Arg Trp Val Tyr Thr Thr Thr Asn Pro Ile Gly Ile Lys
 245 250 255
 Ala Ile Leu Ala Tyr Lys Lys Ala Ile Thr His Ala Gln Leu Arg Leu
 260 265 270
 Pro Leu Ser Ile Glu Asp Phe Asp Leu Glu Asn Val Ser Pro Ala Val
 275 280 285
 Glu Ser Met Leu Ala Trp Pro Lys Leu Arg Thr Ser Val Phe Ser Tyr
 290 295 300
 Ser
 305

<210> 1052
 <211> 105
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1051

<400> 1052
 Phe Phe Met Thr Pro Lys Ser Ile Gln Gln Leu His Leu Ile Lys Thr
 1 5 10 15

Ile Asp Pro Val Arg Lys Ile Ser Pro Val Thr Thr Lys Lys Ser Ser
 20 25 30
 Phe Phe Arg Gln Ser Leu Leu Arg Phe Leu Glu Leu Phe Trp Met Phe
 35 40 45
 Leu Tyr Cys Ile Arg Ser Ile Arg Phe His Cys Val His Ile Ala Thr
 50 55 60
 Phe Ile Cys Arg Gly Leu Ile Leu Phe Leu Thr Thr Leu Phe Leu Ser
 65 70 75 80
 Met Ile Cys Ile Leu His Phe Ile Thr Leu Pro Trp Ile Cys Lys Glu
 85 90 95
 Asp Pro Arg Ile Ile Arg Lys Asn Lys
 100 105

<210> 1053
 <211> 256
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1052

<400> 1053
 Phe Phe Ile Gln Lys Met Lys Tyr Asn Ser Arg Glu Lys Ile Lys Ser
 1 5 10 15
 Ala Leu Arg Ile Cys Ser Ser Tyr Cys Ile Thr Val Phe Arg Asn Asn
 20 25 30
 Phe Ser Leu Ser Cys Tyr Asp Lys Ile Phe Tyr Ser Leu Ser Cys Tyr
 35 40 45
 Val Phe Asn Gly Pro Asn Ser Ile Gly Arg Cys Arg Ser Phe Cys Phe
 50 55 60
 Phe Arg Gly Lys Lys Thr Glu Val Glu Thr Lys Glu Val Lys Ile Lys
 65 70 75 80
 Asp Glu Ile Arg Pro Ser Leu Glu Gly Asn Asp Pro Val Lys Val Ala
 85 90 95
 Glu Ser Phe Pro Lys Arg Arg Ala Ala Leu Glu Ser Leu Ser Ser Gln
 100 105 110
 Ser Ser Ile Gly Asn Leu Cys Ala Ile Ser Asn Phe Leu Asp Ser Gln
 115 120 125
 Met Leu Ser Arg Asn Phe Ser Lys Glu Ile Trp Gly Ser Thr Ile Phe
 130 135 140
 Thr Arg Ser Lys Ser Thr Cys Asp Ala Glu Gly Ser Glu Pro Phe Arg
 145 150 155 160
 Tyr Thr Ala Cys Gly Tyr Leu Ala Gly Leu Arg Ser Lys Leu Ala Gly
 165 170 175
 Ser Tyr Glu Leu Gly Val Thr Ala Gly Leu Leu Gln Gly Arg Leu Lys
 180 185 190
 Asp Val Ser Asp Ser His Arg Thr Arg Ala Thr Ser Ser Ile Leu Ser
 195 200 205
 Val His Gly Ser Met Val Thr Arg Pro Leu Ser Cys Thr Lys Tyr Ile
 210 215 220
 Val Gly Lys Ala Arg Pro Leu Leu Phe Phe Phe Arg Leu Thr Ser Asp
 225 230 235 240
 Val Arg Arg Asp Leu Lys Lys Lys Phe Arg Leu Glu Phe Cys Lys Asp
 245 250 255

<210> 1054
 <211> 188
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn1053

<400> 1054

Lys Lys Ser Ser Asp Leu Asn Phe Ala Lys Ile Asp His Asn His Leu
1 5 10 15
Tyr Leu Thr Cys Leu Gly Asp Leu Gly Val Ala Cys Pro Ile Leu Ser
20 25 30
Thr Asp Cys Leu Pro Asn Tyr Ser Glu Lys Ala Ser His Glu Val Leu
35 40 45
Val Tyr Ser Lys Phe Arg Cys Ile Ser Gly Glu Pro Ser Arg Leu Ala
50 55 60
Thr Ser Gly Asn Asp Thr Tyr Tyr Ser Ile Val Ser Leu Pro Ile Gly
65 70 75 80
Leu Arg Tyr Glu Val Thr Ser Pro Ser Gly Arg His Asp Phe Asn Ile
85 90 95
Asp Met His Val Ala Pro Lys Ile Gly Ala Val Leu Ser His Gly Thr
100 105 110
Arg Glu Ala Lys Glu Ile Pro Gly Ser Ser Lys Asp Tyr Ala Phe Phe
115 120 125
Ser Leu Thr Ala Arg Glu Ser Leu Met Ile Ser Glu Lys Leu Ala Met
130 135 140
Thr Phe Gln Val Ser Glu Val Ile Gln Asn Cys Tyr Ser Gln Cys Thr
145 150 155 160
Lys Val Thr Lys Thr Asn Leu Lys Glu Gln Tyr Arg His Leu Ser His
165 170 175
Asn Thr Gly Phe Glu Leu Ser Val Lys Ser Ala Phe
180 185

<210> 1055

<211> 819

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1054

<400> 1055

Ser Arg Trp His His Arg Phe Ile Met Gln Val Leu Leu Ser Pro Gln
1 5 10 15
Leu Pro Pro Pro Gln His Ser Val Gly Ser Ile Ser Ser Pro Ser
20 25 30
Lys Leu Arg Val Leu Ala Ile Thr Phe Leu Val Phe Gly Met Leu Leu
35 40 45
Leu Ile Ser Gly Ala Leu Phe Leu Thr Leu Gly Ile Pro Gly Leu Ser
50 55 60
Ala Ala Ile Ser Phe Gly Leu Gly Ile Gly Leu Ser Ala Leu Gly Gly
65 70 75 80
Val Leu Met Ile Ser Gly Leu Leu Cys Leu Leu Val Lys Arg Glu Ile
85 90 95
Pro Thr Val Arg Pro Glu Glu Ile Pro Glu Gly Val Ser Leu Ala Pro
100 105 110
Ser Glu Glu Pro Ala Leu Gln Ala Ala Gln Lys Thr Leu Ala Gln Leu
115 120 125
Pro Lys Glu Leu Asp Gln Leu Asp Thr Asp Ile Gln Glu Val Phe Ala
130 135 140
Cys Leu Arg Lys Leu Lys Asp Ser Lys Tyr Glu Ser Arg Ser Phe Leu
145 150 155 160
Asn Asp Ala Lys Lys Glu Leu Arg Val Phe Asp Phe Val Val Glu Asp
165 170 175

Thr Leu Ser Glu Ile Phe Glu Leu Arg Gln Ile Val Ala Gln Glu Gly
 180 185 190
 Trp Asp Leu Asn Phe Leu Ile Asn Gly Gly Arg Ser Leu Met Met Thr
 195 200 205
 Ala Glu Ser Glu Ser Leu Asp Leu Phe His Val Ser Lys Arg Leu Gly
 210 215 220
 Tyr Leu Pro Ser Gly Asp Val Arg Gly Glu Gly Leu Lys Lys Ser Ala
 225 230 235 240
 Lys Glu Ile Val Ala Arg Leu Met Ser Leu His Cys Glu Ile His Lys
 245 250 255
 Val Ala Val Ala Phe Asp Arg Asn Ser Tyr Ala Met Ala Glu Lys Ala
 260 265 270
 Phe Ala Lys Ala Leu Gly Ala Leu Glu Glu Ser Val Tyr Arg Ser Leu
 275 280 285
 Thr Gln Ser Tyr Arg Asp Lys Phe Leu Glu Ser Glu Arg Ala Lys Ile
 290 295 300
 Pro Trp Asn Gly His Ile Thr Trp Leu Arg Asp Asp Ala Lys Ser Gly
 305 310 315 320
 Cys Ala Glu Lys Lys Leu Arg Asp Ala Glu Glu Arg Trp Lys Lys Phe
 325 330 335
 Arg Lys Ala Val Phe Trp Val Glu Glu Asp Gly Gly Phe Asp Ile Asn
 340 345 350
 Asn Leu Leu Gly Asp Trp Gly Thr Val Leu Asp Pro Tyr Arg Gln Glu
 355 360 365
 Arg Met Asp Glu Ile Thr Phe His Glu Leu Tyr Glu Lys Thr Thr Phe
 370 375 380
 Leu Lys Arg Leu His Arg Lys Cys Ala Leu Ala Lys Thr Thr Phe Glu
 385 390 395 400
 Lys Lys Arg Ser Lys Lys Asn Leu Gln Ala Val Glu Glu Ala Asn Ala
 405 410 415
 Arg Arg Leu Lys Tyr Val Arg Asp Trp Tyr Asp Gln Glu Phe Gln Lys
 420 425 430
 Ala Gly Glu Arg Leu Glu Lys Leu His Ala Leu Tyr Pro Glu Val Ser
 435 440 445
 Val Ser Ile Arg Glu Asn Lys Ile Gln Glu Thr Arg Ser Asn Leu Glu
 450 455 460
 Lys Ala Tyr Glu Ala Ile Glu Glu Asn Tyr Arg Cys Cys Val Arg Glu
 465 470 475 480
 Gln Glu Asp Tyr Trp Lys Glu Glu Glu Lys Arg Glu Ala Glu Phe Arg
 485 490 495
 Glu Arg Gly Asn Lys Ile Leu Ser Pro Glu Glu Leu Glu Ser Ser Leu
 500 505 510
 Glu Gln Phe Asp His Gly Leu Lys Asn Phe Ser Glu Lys Leu Met Glu
 515 520 525
 Leu Glu Gly His Ile Leu Lys Leu Gln Lys Glu Ala Thr Ala Glu Val
 530 535 540
 Glu Asn Lys Ile Leu Ser Asp Ala Glu Ser Arg Leu Glu Ile Val Phe
 545 550 555 560
 Glu Asp Val Lys Glu Met Pro Cys Arg Ile Glu Glu Ile Glu Lys Thr
 565 570 575
 Leu Arg Met Ala Glu Leu Pro Leu Leu Pro Thr Lys Lys Ala Phe Glu
 580 585 590
 Lys Ala Cys Ser Gln Tyr Asn Ser Cys Ala Glu Met Leu Glu Lys Val
 595 600 605
 Lys Pro Tyr Cys Lys Glu Ser Leu Ala Tyr Val Thr Ser Lys Glu Arg
 610 615 620
 Leu Val Ser Leu Asp Glu Asp Leu Arg Arg Ala Tyr Thr Glu Cys Gln
 625 630 635 640
 Lys Arg Phe Gln Gly Asp Ser Gly Leu Glu Ser Glu Val Arg Ala Cys
 645 650 655

Arg Glu Gln Leu Arg Glu Arg Ile Gln Glu Phe Glu Thr Gln Gly Leu
 660 665 670
 Asp Leu Val Glu Lys Glu Leu Leu Cys Val Ser Ser Arg Leu Arg Asn
 675 680 685
 Thr Glu Cys Asp Cys Val Ser Gly Val Lys Lys Glu Ala Pro Pro Gly
 690 695 700
 Lys Lys Phe Tyr Ala Gln Tyr Tyr Asp Glu Ile Tyr Arg Val Arg Val
 705 710 715 720
 Gln Ser Arg Trp Met Thr Met Ser Glu Arg Leu Arg Glu Gly Val Gln
 725 730 735
 Ala Cys Asn Lys Met Leu Lys Ala Gly Leu Ser Glu Glu Asp Lys Val
 740 745 750
 Leu Lys Glu Glu Glu Tyr Trp Leu Tyr Arg Glu Glu Arg Lys Asn Lys
 755 760 765
 Glu Lys Arg Leu Val Gly Thr Lys Ile Val Ala Thr Gln Gln Arg Val
 770 775 780
 Ala Ala Phe Glu Ser Ile Glu Val Pro Glu Ile Pro Glu Ala Pro Glu
 785 790 795 800
 Glu Lys Pro Ser Leu Leu Asp Lys Ala Arg Ser Leu Phe Thr Arg Glu
 805 810 815
 Asp His Thr

<210> 1056
 <211> 313
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1055

<400> 1056
 Cys Lys Tyr Leu Tyr His His Ser Tyr Pro Pro Pro Pro Asp His Ser
 1 5 10 15
 Val Gly Ala Phe Cys Leu Ser Lys Phe Arg Val Leu Ala Ile Thr
 20 25 30
 Phe Leu Val Leu Gly Val Leu Phe Leu Ile Ser Gly Ala Leu Phe Leu
 35 40 45
 Thr Leu Gly Ile Ser Gly Leu Ser Ala Ala Ile Ser Phe Gly Leu Gly
 50 55 60
 Ile Gly Leu Ser Ala Leu Gly Gly Val Leu Val Val Ser Gly Leu Leu
 65 70 75 80
 Cys Leu Leu Ala Lys Arg Glu Val Pro Thr Val Arg Pro Glu Glu Ile
 85 90 95
 Pro Glu Gly Val Ser Val Ala Pro Ser Glu Glu Pro Ala Leu Gln Ala
 100 105 110
 Thr Gln Lys Thr Leu Ala Gln Leu Pro Lys Glu Leu Asp Gln Leu Asp
 115 120 125
 Arg Tyr Ile Gln Glu Val Val Ser Cys Leu Gly Lys Leu Lys Asp Leu
 130 135 140
 Arg Cys Glu Asp Gln Gly Leu Leu Lys Asp Ala Lys Glu Lys Leu Gln
 145 150 155 160
 Val Phe Asp Phe Val Trp Lys Asp Met Met Thr Glu Phe Val Glu Leu
 165 170 175
 Gln Gln Ile Met Asp Gln Glu Gly Trp Tyr Leu Lys Cys Leu Ile Gln
 180 185 190
 Glu Met Arg Asp Ile Gly Ser Thr Leu Phe Met Ser Gln Val Ser Leu
 195 200 205
 Phe Lys Leu Trp Glu Trp Leu Gly Tyr Leu Pro Ser Gly Asp Val Arg
 210 215 220

Gly Glu Arg Leu Lys Lys Ser Ala Arg Glu Val Val Asp Arg Phe Met
 225 230 235 240
 Arg Arg Ile Cys Asp Thr Arg Lys Val Ala Met Thr Phe Asp Arg Asn
 245 250 255
 Ala Tyr Gly Val Ala Lys Thr Ala Phe Glu Lys Ala Phe Gly Ala Leu
 260 265 270
 Glu Thr Cys Val Tyr Lys Ser Met Thr Glu Ser Tyr Arg Glu Ala Phe
 275 280 285
 Cys Glu Tyr Lys Lys Thr Lys Ile Leu Arg Asp Glu Glu Lys Ile Leu
 290 295 300
 Arg Ile Cys Tyr Leu Glu Leu Arg Arg
 305 310

<210> 1057
 <211> 249
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1056

<400> 1057
 Gly Glu Asp Ile Lys Asp Met Leu Ser Arg Val Glu Glu Ile Glu Met
 1 5 10 15
 Met Leu Arg Val Ile Glu Leu Pro Leu Leu Pro Ile Lys Gln Ala Leu
 20 25 30
 Glu Lys Ala Phe Val Gln Tyr Asn Ser Tyr Lys Ala Lys Leu Thr Lys
 35 40 45
 Val Glu Pro Cys Phe Arg Glu Ser Pro Ala Tyr Ile Thr Ser Glu Glu
 50 55 60
 Arg Leu Gln Ser Leu Asp Gln Thr Leu Glu Arg Ala Tyr Lys Glu Tyr
 65 70 75 80
 Gln Lys Arg Phe Gln Glu Pro Ser Arg Leu Glu Ser Glu Val Ser Gly
 85 90 95
 Cys Arg Glu His Leu Arg Glu Gln Val Lys Gln Phe Glu Thr Gln Gly
 100 105 110
 Leu Asp Leu Ile Lys Glu Glu Leu Ile Phe Val Ser Asp Val Leu Phe
 115 120 125
 Arg Lys Met Val Ser Cys Leu Val Ser Thr Val His Val Pro Phe Met
 130 135 140
 Glu Phe Tyr Tyr Glu Tyr Phe Glu Leu His Arg Leu Arg Leu Arg Ala
 145 150 155 160
 Gln Trp Met Ala Asn Ala Glu Ile Tyr Ser Lys Val Arg Lys Ala Phe
 165 170 175
 Pro Glu Met Leu Lys Glu Thr Leu Glu Lys Ala Lys Ala Pro Arg Glu
 180 185 190
 Glu Glu Tyr Trp Leu Leu Cys Glu Glu Arg Lys Ser Lys Glu Lys Arg
 195 200 205
 Leu Ile Leu Asn Lys Ile Glu Ala Ala Gln Gln Arg Val Lys Asp Leu
 210 215 220
 Glu Pro Pro Pro Ile Lys Glu Thr Gly Lys Gln Lys Arg Lys Lys Glu
 225 230 235 240
 Tyr Ser Phe Phe Ile Arg Leu Lys Ser
 245

<210> 1058
 <211> 710
 <212> PRT
 <213> Chlamydia pneumoniae

<220>

<223> CPn1057

<400> 1058

Ile	Ile	His	Phe	Tyr	Phe	Phe	Asn	Phe	Ala	Met	Pro	Glu	Pro	Leu	Tyr
1			5						10					15	
Thr	Asn	Lys	Leu	Ile	Thr	Glu	Lys	Ser	Pro	Tyr	Leu	Leu	Leu	Tyr	Ala
			20					25					30		
His	Thr	Pro	Val	Asn	Trp	Tyr	Pro	Trp	Gly	Ala	Glu	Ala	Phe	His	Ile
		35					40					45			
Ala	Ala	Ile	Glu	Asn	Lys	Pro	Val	Phe	Leu	Ser	Ile	Gly	Cys	Lys	His
	50					55					60				
Ser	Arg	Trp	Cys	Gln	Val	Met	Leu	Gln	Glu	Ser	Tyr	Thr	Asn	Pro	Glu
65				70						75					80
Ile	Ala	Ala	Met	Leu	Asn	Glu	Tyr	Phe	Val	Asn	Val	Lys	Val	Asp	Lys
			85						90					95	
Glu	Glu	Leu	Pro	Tyr	Val	Ala	Lys	Leu	Tyr	Gly	Asp	Leu	Ala	Gln	Met
			100					105					110		
Leu	Ala	Val	Ser	Gly	Asp	His	Gln	Glu	Thr	Val	Ser	Trp	Pro	Leu	Asn
		115					120						125		
Val	Phe	Leu	Thr	Pro	Asp	Leu	Val	Pro	Phe	Phe	Ser	Val	Asn	Tyr	Leu
		130				135					140				
Gly	Asn	Glu	Gly	Lys	Leu	Gly	Leu	Pro	Ser	Phe	Pro	Gln	Ile	Ile	Asp
145				150						155					160
Lys	Leu	His	Phe	Met	Trp	Glu	Asp	Ala	Glu	Glu	Arg	Glu	Ala	Leu	Val
			165						170					175	
Glu	Gln	Ala	Met	Lys	Val	Leu	Glu	Ile	Ala	Ser	Phe	Leu	Glu	Gly	Cys
		180						185					190		
Val	Arg	Lys	Glu	Ile	Leu	Asp	Glu	Ser	Ser	Leu	Lys	Arg	Thr	Val	Ala
		195					200					205			
Ala	Leu	Tyr	Gln	Asp	Ile	Asp	Pro	His	Tyr	Gly	Gly	Val	Lys	Ala	Phe
	210					215					220				
Pro	Lys	Arg	Leu	Pro	Gly	Leu	Leu	Leu	Gln	Phe	Phe	Leu	Arg	Tyr	Ser
225					230					235					240
Leu	Glu	Tyr	Gln	Glu	Ser	Arg	Gly	Leu	Phe	Phe	Val	Asp	Arg	Ser	Leu
			245						250					255	
Ser	Met	Val	Ala	Leu	Gly	Gly	Val	Arg	Asp	His	Ile	Gly	Gly	Gly	Val
		260					265						270		
Tyr	Ser	Tyr	Thr	Ile	Asp	Asp	Lys	Trp	Leu	Ile	Pro	Ala	Phe	Glu	Lys
		275					280					285			
Arg	Leu	Ile	Asp	Asn	Ala	Leu	Met	Ala	Leu	Asn	Tyr	Leu	Glu	Ala	Trp
	290					295					300				
Ala	Cys	Leu	Gly	Lys	Glu	Tyr	Arg	Gly	Ile	Gly	Lys	Gln	Ile	Leu	
305				310					315					320	
Ser	Tyr	Ile	Leu	Ser	Glu	Leu	Tyr	Ser	Pro	Glu	Val	Gly	Ala	Phe	Tyr
			325					330					335		
Ser	Ser	Glu	Gln	Ala	Glu	Asn	Trp	Gly	Ala	Gly	Gly	Gln	Asn	Phe	Tyr
		340						345					350		
Thr	Trp	Ser	Val	Glu	Glu	Ile	Ser	Asn	Ala	Leu	Gly	Glu	Asp	Ala	Glu
		355					360					365			
Ile	Phe	Cys	Asp	Tyr	Tyr	Gly	Ile	Ser	Arg	Glu	Gly	Phe	Phe	Asn	Gly
	370					375					380				
Arg	Asn	Ile	Leu	His	Ile	Pro	Val	His	Arg	Glu	Ile	Glu	Glu	Leu	Ser
385				390						395					400
Glu	Lys	Tyr	His	Arg	Ser	Ile	Glu	Ala	Ile	Glu	Asp	Ile	Val	Asp	Arg
			405						410					415	
Ser	Arg	Asp	Ile	Leu	Lys	Gly	Ile	Arg	Ala	Gln	Arg	Ser	His	Arg	Ser
		420						425					430		
Lys	Asp	Asp	Leu	Ser	Leu	Thr	Phe	Asn	Asn	Gly	Trp	Met	Ile	Tyr	Thr
		435					440						445		

Phe Ala Tyr Ala Gly Arg Leu Leu Gly Glu Val Glu Tyr Ile Glu Ile
 450 455 460
 Gly Lys Lys Cys Gly Glu Phe Val Arg Asn Ser Leu Tyr Lys His His
 465 470 475 480
 Glu Leu Tyr Arg Arg Trp Arg Glu Gly Glu Ala Lys Tyr Arg Ala Ser
 485 490 495
 Leu Glu Asp Tyr Gly Ala Leu Ile Leu Gly Val Leu Ala Leu Tyr Glu
 500 505 510
 Ser Gly Cys Gly Ser Phe Trp Leu Ser Phe Ala Glu Glu Leu Met Gln
 515 520 525
 Glu Val Val Leu Ser Phe Arg Ser Glu Glu Gly Gly Phe Tyr Ser Val
 530 535 540
 Asp Gly Arg Asp Ser Thr Leu Leu Ile Lys Gln Ser Pro Leu Ser Asp
 545 550 555 560
 Gly Glu Thr Ile Ser Gly Asn Ala Leu Ile Cys Gln Cys Leu Leu Ser
 565 570 575
 Leu His Leu Ile Thr Glu Lys Lys His Tyr Leu Thr Tyr Ala Glu Asp
 580 585 590
 Ile Leu Gln Ile Ala Gln Ala Cys Ala His Thr His Lys Phe Ser Ser
 595 600 605
 Leu Gly Leu Leu Ile Ala Ser Gln Asn Tyr Phe Ser Arg Lys His Val
 610 615 620
 Lys Val Leu Ile Ala Leu Gly Asp Gln Glu Asp Arg Ser Pro Val Leu
 625 630 635 640
 Lys Cys Leu Ser Gly Leu Phe Leu Pro Tyr Leu Ser Leu Ile Trp Met
 645 650 655
 Thr Gln Glu Asn Gln Glu His Leu Glu Thr Val Leu Pro Glu Tyr Glu
 660 665 670
 His Cys Leu Ile Pro Lys Gly Asp Cys Thr Ala Thr Thr Ile Tyr Val
 675 680 685
 Leu Glu Val Asp Gln Cys Lys Arg Phe Lys Asp Leu Glu Leu Phe Arg
 690 695 700
 Arg Tyr Leu Ile Ser Leu
 705 710

<210> 1059

<211> 365

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1058

<400> 1059

Glu Val Met Lys Leu Tyr Gln Thr Leu Arg Gly Ile Val Leu Val Ser
 1 5 10 15
 Thr Gly Cys Ile Phe Leu Gly Met His Gly Gly Tyr Ala Ala Glu Val
 20 25 30
 Pro Val Thr Ser Ser Gly Tyr Glu Asn Leu Leu Glu Ser Lys Glu Gln
 35 40 45
 Asp Pro Ser Gly Leu Ala Ile His Asp Arg Ile Leu Phe Lys Val Asp
 50 55 60
 Glu Glu Asn Val Val Thr Ala Leu Asp Val Ile His Lys Leu Asn Leu
 65 70 75 80
 Leu Phe Tyr Asn Ser Tyr Pro His Leu Ile Asp Ser Phe Pro Ala Arg
 85 90 95
 Ser Gln Tyr Tyr Thr Ala Met Trp Pro Val Val Leu Glu Ser Val Ile
 100 105 110
 Asp Glu Phe Leu Met Val Ala Asp Ala Lys Ala Lys Arg Ile Ala Thr
 115 120 125

Asp Pro Thr Ala Val Asn Gln Glu Ile Glu Glu Met Phe Gly Arg Asp
 130 135 140
 Leu Ser Pro Leu Tyr Ala His Phe Glu Met Ser Pro Asn Asp Ile Phe
 145 150 155 160
 Asn Val Ile Asp Arg Thr Leu Thr Ala Gln Arg Val Met Gly Met Met
 165 170 175
 Val Arg Ser Lys Val Met Leu Lys Val Thr Pro Gly Lys Ile Arg Glu
 180 185 190
 Tyr Tyr Arg Lys Leu Glu Glu Glu Ala Ser Arg Lys Val Ile Trp Lys
 195 200 205
 Tyr Arg Val Leu Thr Ile Lys Ala Asn Thr Glu Ser Leu Ala Ser Gln
 210 215 220
 Ile Ala Asp Lys Val Arg Ala Arg Leu Asn Glu Ala Lys Thr Trp Asp
 225 230 235 240
 Lys Asp Arg Leu Thr Ala Leu Val Ile Ser Gln Gly Gly Gln Leu Val
 245 250 255
 Cys Ser Glu Glu Phe Ser Arg Glu Asn Ser Glu Leu Ser Gln Ser His
 260 265 270
 Lys Gln Glu Leu Asp Leu Ile Gly Tyr Pro Lys Glu Leu Cys Gly Leu
 275 280 285
 Pro Lys Ala His Lys Ser Gly Tyr Lys Leu Tyr Met Leu Leu Asp Lys
 290 295 300
 Thr Ser Gly Ser Ile Glu Pro Leu Asp Val Met Glu Ser Lys Ile Lys
 305 310 315 320
 Gln His Leu Phe Ala Leu Glu Ala Glu Ser Val Glu Lys Gln Tyr Lys
 325 330 335
 Asp Arg Leu Arg Lys Arg Tyr Gly Tyr Asp Ala Ser Met Ile Ala Lys
 340 345 350
 Leu Leu Ser Glu Glu Ala Pro Pro Leu Phe Ser Leu Leu
 355 360 365

<210> 1060
 <211> 277
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1059

<400> 1060
 Val Thr Arg Ser Ser Pro Ala Gln Leu Ser Arg Phe Leu Ser Glu Ile
 1 5 10 15
 Gln Asn Lys Pro Lys Lys Ser Leu Ser Gln Asn Phe Leu Val Asp Gln
 20 25 30
 Asn Ile Val Lys Lys Ile Val Ala Thr Ser Glu Val Ile Pro Gln Asp
 35 40 45
 Trp Val Leu Glu Ile Gly Pro Gly Phe Gly Ala Leu Thr Glu Glu Leu
 50 55 60
 Ile Ala Ala Gly Ala Gln Val Ile Ala Ile Glu Lys Asp Pro Met Phe
 65 70 75 80
 Ala Pro Ser Leu Glu Glu Leu Pro Ile Arg Leu Glu Ile Ile Asp Ala
 85 90 95
 Cys Lys Tyr Pro Leu Asp Gln Leu Gln Glu Tyr Lys Thr Leu Gly Lys
 100 105 110
 Gly Arg Val Val Ala Asn Leu Pro Tyr His Ile Thr Thr Pro Leu Leu
 115 120 125
 Thr Lys Leu Phe Leu Glu Ala Pro Asp Phe Trp Lys Thr Val Thr Val
 130 135 140
 Met Val Gln Asp Glu Val Ala Arg Arg Ile Val Ala Gln Pro Gly Gly
 145 150 155 160

Arg	Asp	Tyr	Gly	Ser	Leu	Thr	Ile	Phe	Leu	Gln	Phe	Phe	Ala	Asp	Ile
				165					170					175	
His	Tyr	Ala	Phe	Lys	Val	Ser	Ala	Ser	Cys	Phe	Tyr	Pro	Lys	Pro	Gln
			180					185					190		
Val	Gln	Ser	Ala	Val	Ile	His	Met	Lys	Val	Lys	Glu	Thr	Leu	Pro	Leu
		195					200					205			
Ser	Asp	Glu	Glu	Ile	Pro	Val	Phe	Phe	Thr	Leu	Thr	Arg	Thr	Ala	Phe
	210					215					220				
Gln	Gln	Arg	Arg	Lys	Val	Leu	Ala	Asn	Thr	Leu	Lys	Gly	Leu	Tyr	Pro
225					230					235					240
Lys	Glu	Gln	Val	Glu	Gln	Ala	Leu	Lys	Glu	Leu	Gly	Leu	Leu	Leu	Asn
			245						250					255	
Val	Arg	Pro	Glu	Val	Leu	Ser	Leu	Asn	Asp	Tyr	Leu	Ala	Leu	Phe	His
			260					265					270		
Lys	Met	Gln	Ala	Gly											
				275											

<210> 1061

<211> 656

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1060

<400> 1061

Tyr	Lys	Arg	Phe	Leu	Tyr	Ile	His	Ile	Thr	Lys	Val	Met	Thr	Ser	Ser
1				5					10					15	
Ser	Cys	Pro	Leu	Leu	Asp	Leu	Ile	Leu	Ser	Pro	Ala	Asp	Leu	Lys	Lys
			20					25					30		
Leu	Ser	Ile	Ser	Gln	Leu	Pro	Gly	Leu	Ala	Glu	Glu	Ile	Arg	Tyr	Arg
		35					40					45			
Ile	Ile	Ser	Val	Leu	Ser	Gln	Thr	Gly	Gly	His	Leu	Ser	Ser	Asn	Leu
	50					55					60				
Gly	Ile	Val	Glu	Leu	Thr	Ile	Ala	Leu	His	Tyr	Val	Phe	Ser	Ser	Pro
65					70					75					80
Lys	Asp	Lys	Phe	Ile	Phe	Asp	Val	Gly	His	Gln	Thr	Tyr	Pro	His	Lys
			85					90						95	
Leu	Leu	Thr	Gly	Arg	Asn	Asn	Glu	Gly	Phe	Asp	His	Ile	Arg	Asn	Asp
			100					105					110		
Asn	Gly	Leu	Ser	Gly	Phe	Thr	Asn	Pro	Thr	Glu	Ser	Asp	His	Asp	Leu
		115				120						125			
Phe	Phe	Ser	Gly	His	Ala	Gly	Thr	Ala	Leu	Ser	Leu	Ala	Leu	Gly	Met
	130					135					140				
Ala	Gln	Thr	Thr	Pro	Leu	Glu	Ser	Arg	Thr	His	Val	Ile	Pro	Ile	Leu
145					150					155					160
Gly	Asp	Ala	Ala	Phe	Ser	Cys	Gly	Leu	Thr	Leu	Glu	Ala	Leu	Asn	Asn
			165					170						175	
Ile	Ser	Thr	Asp	Leu	Ser	Lys	Phe	Val	Val	Ile	Leu	Asn	Asp	Asn	Asn
			180					185					190		
Met	Ser	Ile	Ser	Lys	Asn	Val	Gly	Ala	Met	Ser	Arg	Ile	Phe	Ser	Arg
		195				200						205			
Trp	Leu	His	His	Pro	Ala	Thr	Asn	Lys	Leu	Thr	Lys	Gln	Val	Glu	Lys
	210					215					220				
Trp	Leu	Ala	Lys	Ile	Pro	Arg	Tyr	Gly	Asp	Ser	Leu	Ala	Lys	His	Ser
225					230					235					240
Arg	Arg	Leu	Ser	Gln	Cys	Val	Lys	Asn	Leu	Phe	Cys	Pro	Thr	Pro	Leu
			245						250					255	
Phe	Glu	Gln	Phe	Gly	Leu	Ala	Tyr	Val	Gly	Pro	Ile	Asp	Gly	His	Asn
			260					265					270		

Val Lys Lys Leu Ile Pro Ile Leu Gln Ser Val Arg Asn Leu Pro Phe
 275 280 285
 Pro Ile Leu Val His Val Cys Thr Thr Lys Gly Lys Gly Leu Asp Gln
 290 295 300
 Ala Gln Asn Asn Pro Ala Lys Tyr His Gly Val Arg Ala Asn Phe Asn
 305 310 315 320
 Lys Arg Glu Ser Ala Lys His Leu Pro Ala Ile Lys Pro Lys Pro Ser
 325 330 335
 Phe Pro Asp Ile Phe Gly Gln Thr Leu Cys Glu Leu Gly Glu Val Ser
 340 345 350
 Ser Arg Leu His Val Val Thr Pro Ala Met Ser Ile Gly Ser Arg Leu
 355 360 365
 Glu Gly Phe Lys Gln Lys Phe Pro Glu Arg Phe Phe Asp Val Gly Ile
 370 375 380
 Ala Glu Gly His Ala Val Thr Phe Ser Ala Gly Ile Ala Lys Ala Gly
 385 390 395 400
 Asn Pro Val Ile Cys Ser Ile Tyr Ser Thr Phe Leu His Arg Ala Leu
 405 410 415
 Asp Asn Val Phe His Asp Val Cys Met Gln Asp Leu Pro Val Ile Phe
 420 425 430
 Ala Ile Asp Arg Ala Gly Leu Ala Tyr Gly Asp Gly Arg Ser His His
 435 440 445
 Gly Ile Tyr Asp Met Ser Phe Leu Arg Ala Met Pro Gln Met Ile Ile
 450 455 460
 Cys Gln Pro Arg Ser Gln Val Val Phe Gln Gln Leu Leu Tyr Ser Ser
 465 470 475 480
 Leu His Trp Ser Ser Pro Ser Ala Ile Arg Tyr Pro Asn Ile Pro Ala
 485 490 495
 Pro His Gly Asp Pro Leu Thr Gly Asp Pro Asn Phe Leu Arg Ser Pro
 500 505 510
 Gly Asn Ala Glu Thr Leu Ser Gln Gly Glu Asp Val Leu Ile Ile Ala
 515 520 525
 Leu Gly Thr Leu Cys Phe Thr Ala Leu Ser Ile Lys His Gln Leu Leu
 530 535 540
 Ala Tyr Gly Ile Ser Ala Thr Val Val Asp Pro Ile Phe Ile Lys Pro
 545 550 555 560
 Phe Asp Asn Asp Leu Phe Ser Leu Leu Leu Met Ser His Ser Lys Val
 565 570 575
 Ile Thr Ile Glu Glu His Ser Ile Arg Gly Gly Leu Ala Ser Glu Phe
 580 585 590
 Asn Asn Phe Val Ala Thr Phe Asn Phe Lys Val Asp Ile Leu Asn Phe
 595 600 605
 Ala Ile Pro Asp Thr Phe Leu Ser His Gly Ser Lys Glu Ala Leu Thr
 610 615 620
 Lys Ser Ile Gly Leu Asp Glu Ser Ser Met Thr Asn Arg Ile Leu Thr
 625 630 635 640
 His Phe Asn Phe Arg Ser Lys Lys Gln Thr Val Gly Asp Val Arg Val
 645 650 655

<210> 1062

<211> 89

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1061

<400> 1062

Phe Gly Ser Leu Met Val Glu Ile His His Lys Asp Pro Ser Leu Lys
 1 5 10 15

Lys Leu Phe Ala Leu Gln Gln Ser Leu Glu Thr Leu Asn Ser Leu Ser
 20 25 30
 Asp Ile Val Ala Thr Tyr Glu Ala Met Phe Ser Leu Ile Tyr Glu Gly
 35 40 45
 Leu Asn Lys Ala Leu Arg Lys Asp Gln Leu Cys Tyr Leu Leu Ser Val
 50 55 60
 Asn Ser Lys Gly Glu Leu Leu Lys Ser Pro Ser Gly Asp Pro Ile Val
 65 70 75 80
 Gln Thr Phe Pro Ile His Pro His His
 85

<210> 1063
 <211> 559
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1062

<400> 1063
 Arg Gly Phe Pro Val Met Ser Ser Pro Pro Gln Ala Val Ala Ser Leu
 1 5 10 15
 Thr Glu Arg Ile Lys Thr Leu Leu Glu Ser Asn Phe Cys Gln Ile Ile
 20 25 30
 Val Lys Gly Glu Leu Ser Asn Val Ser Leu Gln Pro Ser Gly His Leu
 35 40 45
 Tyr Phe Gly Ile Lys Asp Ser Gln Ala Phe Leu Asn Gly Ala Phe Phe
 50 55 60
 His Phe Lys Ser Lys Tyr Tyr Asp Arg Lys Pro Lys Asp Gly Asp Ala
 65 70 75 80
 Val Ile Ile His Gly Lys Leu Ala Val Tyr Ala Pro Arg Gly Gln Tyr
 85 90 95
 Gln Ile Val Ala His Ala Leu Val Tyr Ala Gly Glu Gly Asp Leu Leu
 100 105 110
 Gln Lys Phe Glu Glu Thr Lys Arg Arg Leu Thr Ala Glu Gly Tyr Phe
 115 120 125
 Ala Thr Glu Lys Lys Lys Pro Leu Pro Phe Ala Pro Gln Cys Ile Gly
 130 135 140
 Val Ile Thr Ser Pro Thr Gly Ala Val Ile Gln Asp Ile Leu Arg Val
 145 150 155 160
 Leu Ser Arg Arg Ala Arg Asn Tyr Lys Ile Leu Val Tyr Pro Val Thr
 165 170 175
 Val Gln Gly Asn Ser Ala Ala His Glu Ile Ser Lys Ala Ile Glu Val
 180 185 190
 Met Asn Ala Glu Asn Leu Ala Asp Val Leu Ile Ile Ala Arg Gly Gly
 195 200 205
 Gly Ser Ile Glu Asp Leu Trp Ala Phe Asn Glu Glu Ile Leu Val Lys
 210 215 220
 Ala Ile His Ala Ser Thr Ile Pro Ile Val Ser Ala Val Gly His Glu
 225 230 235 240
 Thr Asp Tyr Thr Leu Cys Asp Phe Ala Ser Asp Val Arg Ala Pro Thr
 245 250 255
 Pro Ser Ala Ala Ala Glu Ile Val Cys Lys Ser Ser Glu Glu Gln Val
 260 265 270
 Gln Val Phe Glu Gly Tyr Leu Arg His Leu Leu Ser His Ser Arg Gln
 275 280 285
 Leu Leu Thr Ser Lys Lys Gln Gln Leu Leu Pro Trp Arg Arg Phe Leu
 290 295 300
 Asp Arg Ala Glu Phe Tyr Thr Thr Ala Gln Gln Gln Leu Asp Ser Ile
 305 310 315 320

Glu Ile Ala Ile Gln Lys Gly Val Gln Gly Lys Ile His Glu Ser Lys
 325 330 335
 Gln Arg Tyr Asp Asn Ile Ser Arg Trp Leu Gln Gly Asp Leu Val Ser
 340 345 350
 Arg Met Thr Cys Arg Leu Gln Ser Leu Lys Lys Met Leu Ser Gln Ala
 355 360 365
 Leu Ser His Lys Ala Leu Ser Leu Gln Val Arg Cys His Gln Leu Lys
 370 375 380
 Lys Ser Leu Thr Tyr Pro Arg Gln Ile Gln Gln Ala Ser Gln Lys Leu
 385 390 395 400
 Ser Pro Trp Arg Gln Gln Leu Asp Thr Leu Ile Ser Arg Arg Leu His
 405 410 415
 Tyr Gln Lys Glu Glu Tyr Phe His Lys His Thr Arg Leu Lys His Ala
 420 425 430
 His Asn Val Leu Glu Gln Gln Leu Arg Ser His Val Gln Lys Leu Glu
 435 440 445
 Leu Leu Gly Arg Arg Leu Ser Arg Gly Cys Glu Leu Asn Leu Gln Asn
 450 455 460
 Gln Lys Ile Ala Tyr Ala Asn Val Lys Glu Thr Leu Ala Thr Ile Leu
 465 470 475 480
 Glu Arg Arg Tyr Glu Asn Ser Val Ala Arg Tyr Ser Ala Leu Lys Glu
 485 490 495
 Gln Leu His Ser Leu Asn Pro Lys Asn Val Leu Lys Arg Gly Tyr Ala
 500 505 510
 Met Leu Phe Asp Phe Asn Glu Asn Ser Ala Met Ile Ser Val Asp Ser
 515 520 525
 Leu Gln Glu Asn Ala Arg Val Arg Ile Gln Leu Gln Asp Gly Glu Ala
 530 535 540
 Ile Leu Thr Val Thr Asn Ile Glu Ile Cys Lys Leu Ile Lys Gly
 545 550 555

<210> 1064
 <211> 271
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1063

<400> 1064

Phe Cys Arg Glu Ser Met Arg Ile Lys Phe Arg Glu Asn Lys Glu Arg
 1 5 10 15
 Lys Met Thr Arg Gln Ser Tyr Val Leu Gly Asn Trp Lys Met His Lys
 20 25 30
 Thr Ile Gln Glu Ala Lys Glu Tyr Val Gln Thr Leu Ala Ser Leu Leu
 35 40 45
 Gln Gly Glu Pro Leu Ser Cys Thr Ile Gly Ile Ala Ser Pro Phe Thr
 50 55 60
 Ser Leu Arg Ala Ile His Glu Val Ile Asn Thr Thr Gly Ala Phe Leu
 65 70 75 80
 Trp Leu Gly Ala Gln Asn Val His Pro Glu Leu Ser Gly Ala Phe Thr
 85 90 95
 Gly Glu Ile Ser Leu Pro Met Leu Lys Glu Val Gly Val Glu Phe Val
 100 105 110
 Leu Val Gly His Ser Glu Arg Arg His Ile Phe Gly Glu Ser Asp Ala
 115 120 125
 Phe Ile Ala Ser Lys Val Lys Ser Val Ala Gln Ala Gly Leu Val Pro
 130 135 140
 Val Leu Cys Val Gly Glu Ser Leu Glu Val Arg Glu Glu Gly Lys Ala
 145 150 155 160

His Gln Val Ile Lys Lys Gln Leu Leu Leu Gly Leu Glu Gln Met Asp
 165 170 175
 Asn Gly Ser Glu Phe Leu Ile Ala Tyr Glu Pro Val Trp Ala Ile Gly
 180 185 190
 Thr Gly Lys Val Ala Glu Ala Ser Asp Val Gln Asp Ile His Met Phe
 195 200 205
 Cys Arg Glu Val Val Ala Glu Arg Phe Ser Glu Ala Thr Ala Glu Glu
 210 215 220
 Ile Ser Ile Leu Tyr Gly Gly Ser Val Lys Val Asp Asn Ala Gln Arg
 225 230 235 240
 Phe Gly Gln Cys Ser Asp Val Asp Gly Leu Leu Val Gly Gly Ala Ser
 245 250 255
 Leu Glu Gly Gln Ser Phe Phe Glu Val Ala Lys Asn Phe Asn Val
 260 265 270

<210> 1065
 <211> 60
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1064

<400> 1065
 Phe Val Arg Val Met Arg Phe Phe Cys Leu Phe Phe Leu Gly Phe Leu
 1 5 10 15
 Gly Ser Phe His Cys Val Ala Glu Asp Lys Gly Val Asp Leu Phe Gly
 20 25 30
 Val Trp Asp Asp Asn Gln Ile Thr Glu Cys Asp Asp Ser Tyr Met Thr
 35 40 45
 Glu Gly Arg Glu Glu Val Glu Lys Val Val Asp Ala
 50 55 60

<210> 1066
 <211> 71
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1065

<400> 1066
 Arg His Arg Leu Gly Arg His Arg Arg Thr Ser Asp Pro Cys Phe Leu
 1 5 10 15
 Phe Tyr Phe Ser Ile Pro Glu Glu Ser Leu Pro Pro Asp Ser Cys Arg
 20 25 30
 Leu Asn Gln Met Pro Lys His Glu His Leu Pro Ser Ile Leu Leu Lys
 35 40 45
 Lys Pro Ile Ile Asp Tyr Leu Lys Ile Thr Ser Ile Tyr Glu Lys Ala
 50 55 60
 Ile Phe Asn Thr Gly Leu Pro
 65 70

<210> 1067
 <211> 119
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1066

<400> 1067
 Ser Met Ser Leu Asn Lys Glu Ile Gly Met Thr Val Leu Phe Tyr Ala
 1 5 10 15
 Phe Leu Phe Ile Phe Leu Phe Leu Cys Val Ile Leu Cys Gly Leu Ile
 20 25 30
 Leu Val Gln Glu Ser Lys Ser Met Gly Leu Gly Ser Ser Phe Gly Val
 35 40 45
 Asp Ser Gly Asp Ser Val Phe Gly Val Ser Thr Pro Asp Ile Leu Lys
 50 55 60
 Lys Val Thr Ser Trp Cys Ala Val Ala Phe Cys Ile Gly Cys Leu Leu
 65 70 75 80
 Leu Ser Phe Ser Thr Asn Leu Leu Gly Lys Lys Leu Asp Ala Lys Glu
 85 90 95
 Phe Leu Leu Pro Ala Ala Glu Glu Ser Asp Thr Gln Ala Ser Ser Glu
 100 105 110
 Ser Val Glu Ala Asp Glu Ser
 115

<210> 1068
 <211> 206
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1067

<400> 1068
 Ile Gln Val Leu Val Val Arg Asp Phe Phe Thr Glu Leu Cys Gln Ala
 1 5 10 15
 His Val Gln Thr Met Ile Arg Arg Leu Glu Tyr Tyr Gly Ser Pro Ile
 20 25 30
 Leu Arg Lys Lys Ser Ser Pro Ile Ala Glu Ile Thr Asp Glu Ile Arg
 35 40 45
 Asn Leu Val Ser Asp Met Cys Asp Thr Met Glu Ala His Arg Gly Val
 50 55 60
 Gly Leu Ala Ala Pro Gln Val Gly Lys Asn Val Ser Leu Phe Val Met
 65 70 75 80
 Cys Val Asp Arg Glu Thr Glu Asp Gly Glu Leu Ile Phe Ser Glu Ser
 85 90 95
 Pro Arg Val Phe Ile Asn Pro Val Leu Ser Asp Pro Ser Glu Thr Pro
 100 105 110
 Ile Ile Gly Lys Glu Gly Cys Leu Ser Ile Pro Gly Leu Arg Gly Glu
 115 120 125
 Val Phe Arg Pro Gln Lys Ile Thr Val Thr Ala Met Asp Leu Asn Gly
 130 135 140
 Lys Ile Phe Thr Glu His Leu Glu Gly Phe Thr Ala Arg Ile Ile Met
 145 150 155 160
 His Glu Thr Asp His Leu Asn Gly Val Leu Tyr Ile Asp Leu Met Glu
 165 170 175
 Glu Pro Lys Asp Pro Lys Lys Phe Lys Ala Ser Leu Glu Lys Ile Lys
 180 185 190
 Arg Arg Tyr Asn Thr His Leu Ser Lys Glu Glu Leu Val Ser
 195 200 205

<210> 1069
 <211> 301
 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1068

<400> 1069

Met	Ser	Cys	Met	Pro	Pro	Pro	Phe	Val	Val	Thr	Leu	Thr	Thr	Ser	Ala
1				5					10					15	
Gln	Asn	Asn	Leu	Arg	Asp	Gln	Leu	Lys	Glu	Lys	Asn	Phe	Ile	Phe	Ser
			20					25					30		
Gln	Pro	Gln	Asn	Thr	Val	Phe	Gln	Ala	Arg	Ser	Asn	Thr	Val	Thr	Cys
		35					40					45			
Thr	Leu	Tyr	Pro	Ser	Gly	Lys	Leu	Val	Ile	Gln	Gly	Lys	Gly	Ser	Glu
	50					55					60				
Glu	Phe	Ile	Glu	Phe	Phe	Leu	Glu	Pro	Glu	Ile	Leu	His	Thr	Phe	Thr
65					70					75				80	
His	Ala	Arg	Val	Glu	Gln	Asp	Leu	Arg	Pro	Arg	Leu	Gly	Val	Asp	Glu
			85						90				95		
Ser	Gly	Lys	Gly	Asp	Phe	Phe	Gly	Pro	Leu	Cys	Ile	Ala	Ala	Val	Tyr
			100					105					110		
Ala	Ser	Asn	Ala	Glu	Ile	Leu	Lys	Lys	Leu	Tyr	Glu	Asn	Lys	Val	Gln
		115					120					125			
Asp	Ser	Lys	Asn	Leu	Lys	Asp	Thr	Lys	Ile	Ala	Ser	Leu	Ala	Arg	Ile
	130					135					140				
Ile	Arg	Ser	Leu	Cys	Val	Cys	Asp	Val	Ile	Ile	Leu	Tyr	Pro	Glu	Lys
145				150						155				160	
Tyr	Asn	Glu	Leu	Tyr	Gly	Lys	Phe	Gln	Asn	Leu	Asn	Thr	Leu	Leu	Ala
			165						170				175		
Trp	Ala	His	Ala	Thr	Val	Ile	Asn	Asn	Leu	Ala	Pro	Lys	Pro	Ala	Gly
			180					185					190		
Asp	Val	Phe	Ala	Ile	Ser	Asp	Gln	Phe	Ala	Ala	Ser	Glu	Tyr	Thr	Leu
	195						200					205			
Leu	Lys	Ala	Leu	Gln	Lys	Lys	Glu	Thr	Asp	Ile	Thr	Leu	Ile	Gln	Lys
	210					215					220				
Pro	Arg	Ala	Glu	Gln	Asp	Val	Val	Val	Ala	Ala	Ala	Ser	Ile	Leu	Ala
225				230						235				240	
Arg	Asp	Ala	Phe	Val	Gln	Ser	Ile	Gln	Lys	Leu	Glu	Glu	Gln	Tyr	Gln
			245						250				255		
Val	Gln	Leu	Pro	Lys	Gly	Ala	Gly	Phe	Asn	Val	Lys	Ala	Ala	Gly	Arg
			260					265					270		
Glu	Ile	Ala	Lys	Gln	Arg	Gly	Lys	Glu	Leu	Leu	Ala	Lys	Ile	Ser	Lys
	275						280					285			
Thr	His	Phe	Lys	Thr	Phe	Asp	Glu	Ile	Cys	Ser	Gly	Lys			
	290					295					300				

<210> 1070

<211> 145

<212> PRT

<213> Chlamydia pneumoniae

<220>

<223> CPn1069

<400> 1070

Val	Ile	Met	Gln	Glu	His	Ile	His	Lys	Glu	Leu	Leu	His	Leu	Gly	Glu
1				5					10					15	
Ile	Phe	Arg	Ser	Ser	Arg	Glu	Ser	Gln	Ser	Leu	Ser	Leu	Lys	Asp	Val
			20					25					30		
Glu	Ala	Ala	Thr	Ser	Ile	Arg	Tyr	Ser	Cys	Leu	Glu	Ala	Ile	Glu	Gln
		35					40					45			
Gly	Cys	Leu	Gly	Lys	Leu	Ile	Ser	Pro	Val	Tyr	Ala	Gln	Gly	Phe	Ile
	50					55					60				
Lys	Lys	Tyr	Ala	Thr	Tyr	Leu	Gly	Leu	Asp	Gly	Asp	Ser	Ile	Leu	Gln
65				70						75				80	
Glu	His	Pro	Tyr	Val	Met	Lys	Ile	Phe	Lys	Glu	Phe	Ser	Asp	His	Asn
				85					90					95	

Met Glu Met Leu Leu Asp Leu Glu Ser Met Gly Gly Arg Asn Ser Pro
100 105 110
Glu Arg Ala Ile His Ser Trp Ser Asn Leu Trp Trp Ala Gly Leu Ile
115 120 125
Ile Ile Gly Gly Ile Met Val Trp Trp Leu Gly Ser Leu Phe Ser Ile
130 135 140
Phe
145

<210> 1071
<211> 460
<212> PRT
<213> Chlamydia pneumoniae

<220>
<223> CPn1070

<400> 1071
Arg Arg Ser Leu Met Thr Phe Pro Cys Gly Asn Cys Asn Cys Tyr Tyr
1 5 10 15
Arg Glu Thr Pro Pro Pro Asn Pro Gly Gly Glu Asp Ile Pro Leu Gln
20 25 30
Glu Gly Gly Gln Ser Gly Ser Gln Gly Gly Arg Val Ile Thr Gln Gln
35 40 45
Pro Gly Thr Gly Gly Arg Glu Met Gly Ile Ser Leu Gly Ser Asp Asn
50 55 60
Val Leu Gly Met Val Glu Gln Ala Gly Ser Leu Leu Asn Asn Leu Leu
65 70 75 80
Asp Ser Ala Arg Met Gln Arg Leu Gly His Tyr Cys Tyr Arg Thr Gly
85 90 95
Thr Pro Trp Cys Arg Glu His Cys Pro Gly Phe Leu Gln Trp Ile Trp
100 105 110
Gly Gly Cys Ala Cys Cys Leu Glu Thr Val Asp Asp Pro Asp Asn
115 120 125
Pro Ser Ala Gln Phe Leu Gln Gln Leu Ile Gln Gln Tyr Gly Pro Ile
130 135 140
Cys Val Gly Met Ser Phe Gln Gln Leu Pro His Cys Thr Gln Lys Ile
145 150 155 160
Glu Gln Gly Glu Pro Leu Gly Asp Gly Asp Lys Gln Glu Val Glu Asn
165 170 175
Gly Cys Lys Leu His Arg Glu Leu Leu Lys Ala Ala Gln Pro Arg Cys
180 185 190
Met Gly Glu Ser Leu Val Lys Leu Leu Gln Asn Asn Gly Leu Gly Glu
195 200 205
Asp Met Gln Gln Thr Pro Pro Trp Ser Leu Ile Leu Gln Ala Val Ser
210 215 220
Glu Gly Ala Leu Ser Phe Val Thr Ser Ser Asp Asn Pro Pro Thr Cys
225 230 235 240
Trp Ile Leu Gln Pro Glu Gln Gln Pro Cys Pro Pro Pro Thr Asp
245 250 255

Glu Glu Gln Leu Gln Gly Ala Val Gly Gly Ala Pro Ala Pro Gln Gln
260 265 270
Lys Lys His Pro Ala Gln Glu Cys Arg Val Thr Cys Lys Leu Asn Phe
275 280 285
Arg Thr Leu Leu Gln Lys Leu Ser Arg Leu Glu Val Leu Ser Leu Glu
290 295 300
Ser Gly Tyr Lys Gly Pro Leu Gly Gln Ala Ala Lys Gln Ile Val Asp
305 310 315 320
Leu Ile Lys Lys Ser Leu Lys Arg Leu Val Ala Ser Asp Leu Ala Thr
325 330 335

Arg Leu Ser Cys Gly Ser Arg Asp Ala Arg Arg Pro Ser Ser Val Gly
 275 280 285
 Ala Glu Pro Gln Tyr Val Ala Lys Lys Tyr Asn Asp Asn Gly Met Ala
 290 295 300
 Arg Gln Leu Gly Lys Ile Gln Val Thr Asn Leu Lys Thr Gly Asp Phe
 305 310 315 320
 Ser Ala Leu Gly Pro Phe Gly Leu Leu Ile Val Lys Met Leu Asn Ser
 325 330 335
 Phe Leu Leu Ser Ala Ser Gln Ser Thr Ser Ser Ile Leu Lys His Thr
 340 345 350
 Gly Gly Glu Ile Cys Tyr Thr Cys Pro Asn Phe Arg Asp Ile Val Val
 355 360 365
 Leu Leu Met Leu Ala Ile Gly Tyr Cys Pro Ala Asn Thr Asp Glu Thr
 370 375 380
 Ser Val Val Asp Ile His Met Ile Asp Asp Pro Ile Met Thr Ile Phe
 385 390 395 400
 Tyr Arg Leu Gln Tyr Ser Tyr Arg Thr Gly Lys Thr Ser Ala Ser Phe
 405 410 415
 Leu Lys Lys Lys Pro Ser Leu Val Arg Gln Glu Ser Leu Asp Cys Pro
 420 425 430
 Thr Pro Ala Glu Ser Val Pro Leu Met Ser Ser Leu Glu Glu Glu Asp
 435 440 445
 Glu Asn Glu Asp Asp Asp Glu Asp Gly Asn Leu Ala Tyr Gln Gln Arg
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 Ile Leu Glu Cys Ser Gly His Leu Gln Thr Leu Phe Leu Gly Ile Lys
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 Ile Asn Lys Glu

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 <212> PRT
 <213> Chlamydia pneumoniae

<220>
 <223> CPn1072

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 35 40 45
 Lys Lys Ile Pro Ile Gln Ile Leu Tyr Ser Phe Thr Lys Val Ser Ser
 50 55 60
 Tyr Leu Lys Asn Glu Asp Ala Ser Thr Ile Phe Cys Val Asp Val Asp
 65 70 75 80
 Arg Gly Leu Leu Gln His Arg Tyr Leu Gly Ser Pro Gly Trp Gln Glu
 85 90 95
 Thr Arg Arg Arg Gln Leu Phe Lys Ser Leu Glu Asn Gln Ser Tyr Gly
 100 105 110
 Asn Glu Arg Leu Gly Glu Glu Thr Leu Ala Ile Asp Ile Phe Arg Asn
 115 120 125
 Lys Glu Cys Leu Glu Ser Glu Ile Pro Glu Gln Met Glu Ala Ile Leu
 130 135 140
 Ala Asn Ser Ser Ala Leu Val Leu Gly Ile Ser Ser Phe Gly Ile Thr
 145 150 155 160
 Gly Ile Pro Ala Thr Leu His Ser Leu Leu Arg Gln Asn Leu Ser Phe
 165 170 175

Gln Lys Arg Ser Ile Ala Ser Glu Ser Phe Leu Leu Lys Ile Asp Ser
 180 185 190
 Ala Pro Ser Asp Ala Ser Val Phe Tyr Lys Gly Val Leu Phe Arg Gly
 195 200 205
 Glu Thr Ala Ile Val Asp Ala Leu Ser Gln Leu Phe Ala Gln Leu Asp
 210 215 220
 Leu Ser Pro Lys Lys Ile Ile Phe Leu Gly Glu Asp Pro Glu Val Val
 225 230 235 240
 Gln Ala Val Gly Ser Ala Cys Ile Gly Trp Gly Met Asn Phe Leu Gly
 245 250 255
 Leu Val Tyr Tyr Pro Ala Gln Glu Ser Leu Phe Ser Tyr Val His Pro
 260 265 270
 Tyr Ser Thr Ala Thr Glu Leu Gln Glu Ala Gln Gly Leu Gln Val Ile
 275 280 285
 Ser Asp Glu Val Ala Gln Leu Thr Leu Asn Ala Leu Pro Lys Met Asn
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 <213> Chlamydia pneumoniae

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<220>
 <223> CPn1073

<400> 1074

Met Arg Arg Tyr Leu Phe Met Val Leu Ala Leu Cys Leu Tyr Arg Ala
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 Ala Pro Leu Glu Ala Val Val Ile Lys Ile Thr Asp Ala Gln Ala Val
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 Leu Lys Phe Ala Arg Glu Lys Thr Leu Val Cys Phe Asn Ile Glu Asp
 35 40 45
 Thr Val Val Phe Pro Lys Gln Met Val Gly Gln Ser Ala Trp Leu Tyr
 50 55 60
 Asn Arg Glu Leu Asp Leu Lys Thr Thr Leu Ser Glu Glu Gln Ala Arg
 65 70 75 80
 Glu Gln Ala Phe Leu Glu Trp Met Gly Ile Ser Phe Leu Val Asp Tyr
 85 90 95
 Glu Leu Val Ser Ala Asn Leu Arg Asn Val Leu Thr Gly Leu Ser Leu
 100 105 110
 Lys Arg Ser Trp Val Leu Gly Ile Ser Gln Arg Pro Val His Leu Ile
 115 120 125
 Lys Asn Thr Leu Arg Ile Leu Arg Ser Phe Asn Ile Asp Phe Thr Ser
 130 135 140
 Cys Pro Ala Ile Cys Glu Asp Gly Trp Leu Ser His Pro Thr Lys Asp
 145 150 155 160
 Thr Thr Phe Asp Gln Ala Met Ala Ile Glu Lys Asn Ile Leu Phe Val
 165 170 175
 Gly Ser Leu Lys Asn Gly Gln Pro Met Asp Ala Ala Leu Glu Val Leu
 180 185 190
 Leu Ser Gly Ile Ser Ser Pro Pro Ser Gln Ile Ile Tyr Val Asp Gln
 195 200 205
 Asp Ala Glu Arg Leu Arg Ser Ile Gly Ala Phe Cys Lys Lys Ala Asn
 210 215 220
 Ile Tyr Phe Ile Gly Met Leu Tyr Thr Pro Ala Lys Gln Arg Val Glu
 225 230 235 240
 Ser Tyr Asn Pro Lys Leu Thr Ala Ile Gln Trp Ser Gln Ile Arg Lys
 245 250 255
 Asn Leu Ser Asp Glu Tyr Tyr Glu Ser Leu Leu Ser Tyr Val Lys Ser
 260 265 270
 Lys